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ORIGINAL COMMUNICATIONS.

NITRIC ACID IN HOOPING COUGH.

Read before the McLean County Medical Society, by S. W. NOBLE, M. D.

Mr. President—By permission I would submit a short paper to the consideration of this Society, the reading of which will fully explain its object, and the universal prevalence of Hooping Cough in our County at present is sufficient apology for reading it at this time.

A few days ago while examining the able report of the Chairman of the Committee on Practical Medicine to the Illinois State Medical Society, I was astonished to find that he had made no mention of Nitric Acid in the treatment of Hooping Cough. He said that during the year this disease had prevailed as an epidemic in his own county. Finding nothing on the subject I was prompted to give my experience to the profession. I will not attempt to write an essay on Hooping Cough, or to present a review of the treatment that has been from time to time adopted. My object is to offer a plain relation of facts which I hope and believe will be of advantage to every member of the Society. And as my investi-

gations all far from being thorough, and having but little authority for what I say on this matter, I would be generously indulged by the members present. Were it not the fact that you are all acquainted with me and know that I am one of the last men to be carried away with new cures, I would not make this report.

Dr. Goodbrake's description of the epidemic in De Witt County forcibly reminds me of one that visited our portion of McLean County in 1852 & '53. The epidemic raged for some time in a very malignant form. A large per centage of the cases terminating fatally. This state of affairs became alarming to parents and physicians. We tried all the known remedies and some of the "domestic," but to little effect. I well remember my anxiety and professional responsibility was increased from the circumstance that I was at the time boarding with an excellent family of people, who had a couple of favorite children sick of Hooping Cough—one a daughter aged six years—the other a son two years younger, both of delicate constitutions and the son predisposed to Asthma and Croup. When they had been sick about six weeks, and were almost worn out by repeated spasms of coughing, unable to retain food upon their stomachs, their faces swollen from engorgement of the vessels, until their eyes were almost closed, frequent attacks of epistaxis, and all remedies usually prescribed in such cases tried to no purpose, including the Nitrate of Silver topically applied as recommended by Dr. Watson, I chanced to meet my uncle Dr. H. Noble, a member of this Society to whom I related my sad experience in the prevailing epidemic. He informed me that he had seen Nitric Acid recommended in some of the Journals as a cure for Hooping Cough and urged me to try it. But I was unable to see how the remedy, could cure the disease in question, and paid but little attention to what he said. I searched my library for the article he referred to but did not find it, and to this day have never read anything in the Journals on the subject—(since reading this paper I have found the article referred to on page

125, vol. 1, new series of this Journal.) Two or three days after the interview, the mother becoming more and more solicitous to have something more done for her children I related to her the conversation I had had with my uncle and proposed, if she was willing, to give the Acid a trial. I told her that it was an excellent tonic and could do no harm, but insisted upon her not expecting too much for the medicine and again informed her that Hooping Cough was a self-limited disease and must run its course. She was anxious to try anything that promised relief, for she was nearly exhausted from protracted watching and anxiety. So I put 1 ʒ Nitric Acid in a tumbler of sweetened water, and directed the oldest child to drink freely of that during the afternoon. The drink was palatable, and the mother being desirous to test the powers of the remedy induced the child to drink it all in about five hours. I then prepared some more which was given freely until bedtime, when the child went to sleep and rested all night without waking—the first good sleep she had had for a month. She never hooped again.

On the day following the boy took the same prescription with like effect. These children were so reduced with the croup that they had been "watched with" for weeks and every time they coughed during the night, and that was every 15 or 20 minutes, they had to be raised up and supported in the bed to prevent suffocation. The improvement in these cases was so sudden and well marked that we could not satisfactorily account for it in any other way than to attribute it to the Nitric Acid. A coincidence would not explain the change.

As before said Hooping Cough was common at the time, and I prescribed the Acid in nearly every case thereafter, and in uncomplicated cases with almost uniform success—I could give you case after case in which I have prescribed it; and if necessary I could procure genuine certificates that would startle a patent nostrum vender. But I deem such things uncalled for, and if I have said enough to induce the members present to give the article a trial, I will have accomplished my object

in reading this paper, for if you once try it, I am certain that it will work as finely for you as it does for me. My formula for giving it is this: fill a glass-tumbler with sweetened water, and pour in nitric acid enough to make it as sour as good lemonade. This makes comparatively a pleasant drink, which I insist upon my patients *drinking freely.* I have no fears of his drinking too much, if it is sufficiently diluted. We have a delicacy in saying how much a patient may take. I have given 1 ʒ to a child six months old, within twenty-four hours. An adult male can take 1 ʒ per day, and plow right along.

The question will no doubt be asked, will it cut short the the disease? It will. How much?—This I will answer by asking, what is the usual course of the complaint? Of what number of days duration? Dr. Watson, who I believe is admitted on all hands to be good authority, says: "The ordinary duration of the disease is from six weeks to three months." He further says: "It will in all probability run a certain course, and our business is to conduct it evenly and safely to the end of this course."

According to my experience with the acid treatment, if it is commenced early and continued regularly, the disease will terminate in between one and three weeks and a-half, and the patients will never hoop. But the most striking examples of the curative properties of the acid, are where the patient has been coughing three or four weeks with no complications. Breathing and circulation natural between paroxysms of coughing. In such cases I have no hesitation in promising a cure in at least forty-eight hours. I prescribe no remedy with more confidence than I do this in the spasmodic stage of hooping cough. I have used it now for over nine years, and my experience has not been confined to any particular epidemic or locality. * * * * * *

CASES OF URÆMIA AS SEQUELA OF SCARLET FEVER.

By W. BROOKS, M.D., of Chicago.

Was called at 10 o'clock, A. M., May 10th, 1851, in consultation with the late Dr. — to H. S. of N—, aged two years. Found her skin pale, dry and harsh, general anasarca, pulse sixty small, does not swallow, comatose, pupil of eyes dilated to greatest extent, a slight convulsion occasionally, decided ammoniacal odor in her breath, has passed no urine for forty hours, evidently in articulo mortis; died ten minutes past eleven. The following are the details of the case as narrated by Dr. L.: About three weeks previously she was attacked very lightly with simple scarlatina, desquamation commenced on the sixth day of the eruption and progressed apparently favorable until eleven days after the first appearance of desquamation and the twenty-first from the attack; when the mother discovered a general fullness that was unnatural and her urine small in quantity, smoky and of a port wine color, the child sleepy and snored very loudly, could be roused, but at once relapsed. She was confident the child had taken cold the day previous. At this time, Dr. L. was called and prescribed as follows: ℞—Bitartrate Potassa i ʒ ; Aqua ss O. Solve to be drank in twenty hours. ℞—Buchu Fol. i ʒ; Aqua Bullient, i ʒ. Infuse; give one dram every three hours. This treatment was continued, the urine diminishing until it was suspended about four o'clock A. M. the 9th, being about forty-one hours previous to decease, after which she was roused with great difficulty. Fifteen hours before death, convulsions supervened.

By request, sectio cadaver was had twenty-four hours after death. General appearance, sanguine, anasarcous; brain, the membranes paler than natural, slight effusion between the

arachnoid and dura mater, and in the ventricles. As the calvarium was being removed, a decided urinous odor was emitted. One dram of the fluid was preserved, which, being put in a flask and heat applied, gave a strong ammoniacal odor. The lungs were somewhat engorged with blood; there were two ounces of nearly transparent fluid in the chest. The same urinous odor was observed when we opened the cavity of the chest as when the calvarium was removed, and a similar ammoniacal one emitted on application of heat to the fluid. On opening the abdomen, the urinous odor was still more marked. Here we found about six ounces of a pale-straw colored fluid, to which heat being applied, the same result was obtained as from that of chest, etc. There was nothing remarkable about the heart. Stomach, intestines, liver and spleen not unnatural, except they were abnormally pale; bladder entirely empty, except two or three casts of tubuli uriniferi. Kidneys very much congested and filled with epithelium. In the pelvis of the left kidney were a few drops of urine, which, on analysis, gave the same results as one dram did which was passed forty-one hours previous to death (which was the last and all that was then passed, and had been carefully preserved by the mother). This proved albuminous by application of heat and nitric acid. Under the microscope could be seen good casts of the tubuli uriniferi, epithelial cells and blood corpuscles.

Case 2d.—Was sister of preceding, four years old. Was summoned to meet Dr. P. in consultation, at six o'clock A. M. the 13th. She had had a similar attack of scarlatina at the same time as her sister. Found her pale, anasarcous, comatose, breathing stertorous, pupils dilated and immobile, breath ammoniacal, pulse fifty-eight, feeble, skin dry and very harsh; has occasional spasms; has passed no urine since four o'clock P. M. the day previous, and then only two drams; can only be roused for a single instant. Introduced a catheter; found the bladder empty. She was evidently sinking, and died at eight o'clock the same morning. She was exposed to cold at the same time as her sister; but no symptoms that caused her

parents to send for their physician, Dr. P., until twelve o'clock M. of the 12th. He gave ℞—Calomel iii grs.; Jalap iii grs., which was to be repeated in six hours, unless it proved actively cathartic; also, ℞—Buchu Fol. i ℥; Aquæ Bullient i ℈; infuse, give two drams every three hours. The urine was suspended about four o'clock P. M. of the same day. Sectio cadaver twenty-six hours after death. The post-mortem appearances were nearly identical with the sister. The only difference we were able to detect was a little urine in the pelvis of both kidnies. There was the same urinous smell on opening the cavities, and the same ammoniacal odor evolved on subjecting the fluid of the cavities to the action of heat, and the microscope revealed a similar condition of urine.

Was called to Ida B——, at eight o'clock A. M., March 11, 1860, aged four and a half years, and to Jenny B——, her sister, at five o'clock P. M. of same day, aged three years and two months. It was the first day of the eruption of very mild cases of Scarlatina. The bowels being slow gave Ida, ℞—Calomel iii grs., Ipecac Pulv. 1 gr. In six hours, it not having moved the bowels, gave ℞—Fluid Ext Senna ss ℥; the throat symptoms were scarcely observable, a free use of diluent drink being all that that was required. To Jenny gave, ℞—Calom. ii grs., Pulvis Ipecac i gr. It acted freely as a cathartic in five hours. To her also gave freely of diluents. Desquamation commenced on the fifth day of the eruption and progressed slowly. It seemed more like a throwing off of branny scales, or more properly epithelial scales, rather than a cuticular desquamation. They each had a warm bath once per diem, with directions that they be kept in their room and well protected.

On the morning of March 21st, saw them and both were apparently doing well. A six o'clock P. M. was called hurriedly to them, and on arrival found that, contrary to positive directions, the day being very fine the nurse had taken both children into the door-yard for about two hours, and alternately drawn one in a hand carriage while the other stood on the

ground. Ida, the eldest, presented the following aspect: generally anasarcous; skin elastic, with bright red cheeks; comatose. Soon after my arrival, passed one ounce of urine, smoky in looks, of peculiar red color, which under the microscope exhibited blood corpuscles, casts of tubuli uriniferi and epithelial cells. On applying heat to it, it yielded Albumen; also the same on the addition of Nitric Acid. Bowels had moved naturally at 8 A. M., pulse sixty-four, pupils dilated, and would not contract by placing a lighted lamp near them; skin dry and harsh. ℞—Calomel x grs., Pulv. Ipecac iiss grs. M.—ft Chart No. V; one to be given every two hours. ℞—Citrate of Potassa (officinal solution) i ʒ, Aqua Pura ss O. M—Give one tablespoonful every two hours. A warm bath.

5 A. M. Bowels have not acted; has passed one dram of urine like that of yesterday on analysis except darker in color. Still comatose, pupils dilated to maximum, immobile, can be roused, but instantly relapses, thirsty, skin intensely hot and dry, pulse fifty-four, anasarca increasing, peculiar bright color of one cheek, an unusual ammoniacal odor in breath. Mustard semicupium sinapism over the kidneys, heated before applying; repeat Calomel and Ipecac; continue Citrate Potassa. ℞—Triticum Repens ss ʒ, Aquæ Bullient ss O.; infuse one hour; one ounce to be given every three hours.

6 P. M. Met Dr. L—— in consultation.

4th. Last hour has been restless, bowels have not been moved, no urine passed, skin very harsh, pupils still dilated and immobile; can be roused, but with difficulty; ammoniacal fœtor in breath increased. Continue treatment. Eleven P. M. At half-past ten bowels acted freely; sinapism had also acted; seemed to be fretted by it; pupils still dilated; can detect no urine in bladder. At half-past eleven, complained of something hurting her in the region of the kidneys. Three minutes later, of pain in or near the bladder, and very soon a desire to urinate, and soon passed two ounces of highly albuminous urine, charged largely with epithelial cells, casts of tubuli uriniferi and blood corpuscles. Bowels moved freely

twenty minutes of twelve. At twelve o'clock passed three ounces of urine, with less abnormal elements in it, and immediately a profuse perspiration broke forth, in truth she was literally bathed in it, which emitted the odor of warm urine. Suspend Calomel and Ipecac; continue Citrate Potassa and Triticum Repens. At one o'clock A. M. she passed three and half ounces of urine much lighter colored. At two A. M. passed yet more and waked up feebly. At this time the pupil contracted partially. Six o'clock A. M.—Has passed urine copiusly about once an hour near four ounces at a time on the average; perspiration abating; pupils contract quite freely; pulse eighty; is bright and lively; bowels have moved copiously; anasarca much abated. Twelve M—Urine very copious, light pink color, very little albumen; calls for food; give black tea and toast bread; continue Triticum Repens. Six P. M.—Evidently improving; pulse eighty-five; bowels moved freely at five P. M.

24th.—Ten A. M. Improving. Continue diet and treatment.

25th.—From this time for six days she continued to improve, when there was still some blood corpuscles in the urine. ℞—Tinct. Mur Ferri 1 ℥; M. Liquid Hydrochloric Acid xxx minims. Three gtts. in water every four hours. Of the infusion of Triticum Repens, one dram every three hours.

26th.—Ten A. M. Improving; continue treatment.

27th.—Ten A. M. Much improved. The Sesquichloride of Iron was continued three days longer, when neither albumen, casts of tubules or blood corpuscles were discernible; treatment was suspended; desquamation was soon completed, and now, April 5th, 1862, is in perfect health.

March 21st.—6 P. M. Found Jenny in convulsions, pupils dilated, immobile, skin dry and harsh, pulse sixty-one, heavy, laboring, breathing stertorous, insensible; has, to the best of nurse's belief, passed no urine since ten A. M.; repeated efforts at vomiting; odor of orange peel in her mouth; by irritating the fauces with a feather she vomited perhaps one

eighth part of the peel of a small orange, with some nearly colorless fluid. Convulsions soon abated, anasarcous, the flesh having a peculiar elastic feel. ℞—Calomel viii grs., Ipecac Pulv. ii grs. M. Chart, No. V. Give one every two hours. ℞—Citrate Patassa (of. sol.) iss ℈, Aqua Pura ss O. M—Give one half ounce every two hours hot pediluvium with mustard; hot sinapism over the kidneys three by six inches.

22d, 5 A. M.—Bowels have acted moderately; no urine passed; can detect none in the bladder with catheter. No convulsions since 11 P. M. yesterday; comatose, pupils still dilated and immobile, can be roused but very little. Repeat calomel and ipecac; continue Citrate of Potassa. ℞—Triticum Repens, ss ℥; Aquæ Bullient, ss ℈. Infuse one hour; strain. Give one ounce every three hours. Apply blister three by six inches over the region of the kidneys.

At 6 P. M., met Dr. L. in consultation. Blister has acted well; when vesication took place, she aroused some, which was at 2 P. M.; at half-past two, she cried out as with pain, and applied both hands over the renal organs for a moment, and then transferred them to the hypogastrium, pressing and crying for a short time. At 3 P. M., she passed two ounces of urine of dark port wine color; analysis by heat and nitric acid showed albumen largely. The microscope, epithelial cells, casts of tubuli uriniferi and blood corpuscles. 7 P. M., is perspiring freely, with strong urinous odor. At half-past 7, passed five ounces of urine of much lighter color, which yielded some albumen, many casts of tubuli and some blood corpuscles; is bright and cheerful, disposed to be wakeful. Bowels have moved copiously four times during the last three hours. Desires a little food. Give some coffee made of unleavened bread roasted. Continue triticum repens.

23d, 10 A. M.—Greatly improved; urine has very little albumen, a few casts and blood corpuscles. 24th, urine appears well, except some blood corpuscles. On the 27th, some blood corpuscles remaining, ordered ℞—Tinct. Mur. Ferri, i ℈; Liquid Hydrochloric Acid, v gtts. M.—Give three gtts. once in six hours.

29th.—All abnormal appearances had gone from urine; with a mild diet, she was soon convalescent, and is now, April 7th, 1862, in good health.

Feb. 28th, 1862, 8 o'clock P. M.—Was called to W. H—s, of Peoria, aet. seventeen years. He reports that a month ago he had a light attack of scarlet fever at Peoria; he came from thence to this place three days since. Very sleepy, rouses without much difficulty; the pupil of the eyes dilated to more than one half the extent of the cornea. The finger applied close to the eye will not cause the pupil to contract, and the same with a lamp. Pulse fifty, full, heavy, and labored. Skin hot, dry, harsh and sallow; general anasarca; flesh very elastic; breathing, when asleep, stertorous. Has passed about one dram of urine since morning, of a brownish red color, smoky appearance. Yields albumen, casts of tubuli uriniferi and blood corpuscles. Desquamation appears to be about one-half completed. ℞—Calomel, xx grs.; Ipecac Pulv. v grs. M. Chart No. IV—Give one every two hours. ℞—Citrate Potassa (Off. Sol.) i ℥ ; Aquæ Pura, i O. Give one and a-half ounces every two hours. Pediluvium of very hot mustard and water.

March 1st, 8 o'clock A. M.—Has slept and breathed very heavily all night; skin dry and harsh, pulse sixty-five; thirsty, tongue covered with a thick yellow coat, pupils still dilated immobile, bowels have not yet acted, urine two ounces since last evening, very much like that of yesterday. Repeat Calomel and Ipecac if it does not act briskly within two hours of taking last powder given. ℞ Fluid Ext. Senna ss. ℥ ; also, ℞ Bitartrate Potasse ss. ℥ ; Aquæ Bullient i O. Give as a drink ad libitum. Seven o'clock P. M. Bowels have acted copiously, urine increased to about ten ounces. Abnormal appearances much the same. Anasarca not changed. Sleeps most of the time and heavy pupils unchanged, Desquamation recommencing, continue Citrate and Bitartrate Potassa Diet gruel, repeat pediluvium.

March 2d. Eight o'clock A. M. Still sleepy, skin dry,

pupils contract some, dejections from bowels very copious, urine largely increased, remains of a dirty port wine color. Continue treatment. Eight P. M. Improved, less drowsy.

3d. Nine A. M. Urine very free, bowels have acted twice this morning freely. Anasarca disappearing, abnormal products of urine less. Eight and a half P. M. Very comfortable, more wakeful, pulse sixty-eight. Continue treatment, light diet.

4th. Appears to be improving, desquamation going on, continue treatment. Nine P. M. Sleeps too heavily, otherwise seems to be doing well, has been more wakeful during the day.

5th. 9 A. M. Much as yesterday, some unnatural dilation and immobility of pupil. Diet, stale toast bread and black tea. Continue treatment. 7 P. M. Sleeps too much.

6th. Anasarca much abated. Urine is yet albuminous. Some tube casts and some blood corpuscles, but is quite free. Skin is still dry. Sleeps less heavy, bowels have moved freely. Continue treatment. 9 P. M. Very bright.

7th. 8 A. M. At two o'clock this morning, he awoke with most intense head-ache, which lasted at least five hours and then gradually abated. Appears bright, pupils contract pretty well. Skin dry, pulse eighty-two; bowels moved freely at 7½ this morning. Urine free, has abnormal products in it to some extent. 9½ P. M. Is now asleep, breathes heavily, very heavily; his brother thinks not more so than is natural to him. Fifteen minutes of ten, is awake, says he has no headache, feels pretty well. Says no one can imagine the intensity of his suffering with his head for about two hours this morning. He soon fell asleep. The headache returned about twelve o'clock.

8th. 1½ A. M. Summoned to him in haste. Found him in a sitting posture in bed, rigid, with a generally convulsed condition. Eyes closed, no deglutition. Sinapism eight by twelve inches over the kidnies. Sinapisms to wrists and ancles. He gradually relaxed so far as to be placed in a recumbent posture.

2½ A. M.—Paralysis of left half of body. Sinapisms have not acted; has not swallowed. 3¼ o'clock. Some motion of left hand. 4 A. M. Right side paralyzed. Very little motion of left. Pulse for the last hour forty-two. 4½ o'clock. Sinapism acting smartly. Convulsions abating; he made a little groan for the first time. 5 o'clock. Emplastrum Cantharis five by twelve inches, applied on the place from whence the sinapism was removed. Some urine has just passed involuntarily.

7 A. M.—Convulsions have ceased; at six, manifested a desire to urinate, was assisted and passed about five ounces of smoky urine, much like that passed the 6th. Vesication is taking place. Can swallow without much difficulty. Paralysis of right side abating.

℞—Calomel xx grs. Ipecac pulv. v grs. M. f. t. Chart No. iv. One every two hours. ℞—Triticum Repens. i ℥ Aquæ Bullient, i O. Infuse one hour, give two ounces every three hours.

9 A. M.—Profuse perspiration with strong urinous odor and ammoniacal odor in breath. Vesication complete, blister to be dressed with leaves of cabbage dipped in hot water. Describes the approach of the convulsions as a drawing of the head from the pillow upward, as he was waking from sleep, till he came erect in bed when he lost consciousness, and it was in this state I found him.

6 P. M.—Bowels have not acted; sweats freely; urine free; pupil contract well; desquamation is proceeding rapidly. Repeat Calomel and Ipecac. Continue Triticum Repens. Very light diet.

10th.—Decidedly improving. Continue treatment.

11th.—9 A. M. Decidedly convalescing. The abnormal elements disappearing, blood corpuscles more in quantity. ℞—Mur Tinct. Ferri. i ℥; Liquid Hydrochloric Acid ss ʒ. M—Give ten g tts. once in six hours. Continue Triticum Repens. Under this treatment he continued to improve till the 22d, when he seemed convalescent. On the 25th he exposed

himself to fatigue, and on the the 26th there was some Hæmaturia. ℞—Triticum Repens. i ℥. Aquæ Bullient i O. Infuse one hour, take two ounces every three hours. Take of the preceding formula of Sesquichloride of Iron ten g tts. every six hours, and light farinaceous diet; this was pursued a few days and very slight hœmaturia remaining. ℞—Acidum Gallicum, xxi. grs. F. t. Chart No. 7. One every four hours. Under this all abnormal constituents disappeared from the urine. And now, April 14th, 1862, all diseased action seems to have passed away.

Elaborate microscopic detail, or elegantly wrought theories will hardly be anticipated of one engaged in the active duties of professional life. Believing the above related cases to be those of Uræmic intoxication or poison, as the result of exposure to cold during the period of desquamation in cases of simple scarlatina, we may venture the following deductions. We have two or three conditions present, which almost entirely lead to the train of symptoms observed in each case: First, the skin was dry and harsh, preventing such cutaneous elimination of the scarlatinal poison, as would have been the case if desquamation had been free and the skin had returned early to a normal state. Second, at the Sectio Cadaver the kidnies were in a very analogous condition to that of the skin. As there has been a desquamative state of the one, so there has been of the other. The kidney was filled with epithelium, the organ consequently enlarged, and in a state of hyperæmia as far as this filling with epithelium will permit. Thus, there is not only a large quantity of blood in the organ, but it is irregularly distributed and there is an undue quantity of epithelium in the tubuli uriniferi. This accumulation of epithelium over distends the tubes, thereby compressing the small vessels, which ramify upon the walls. Thus the blood is thrown back on the Malpighian bodies and the vascular system is irregularly supplied. When, hence, hæmaturia, with little or no secretion of urine, the blood being often exosmosed from the small vessels that are unduly filled. When conges-

tion of the Malpighian bodies exists to a great degree it leads to the rupture of the Malpighian vessels and the escape of all the constituents of the blood. Hence, we find in the urine albumen, blood corpuscles, casts of tubuli, etc., which give to the urine its peculiar color and smoky appearance. It will be observed that the cases had progressed well up to the given point, that they had been very light, or in other words there had been very little scarlatinal irritation of the skin and the desquamation imperfect, when on exposure to cold the cutaneous functions were suspended, causing an increased determination of blood to the already disordered kidnies. This disorder arising from imperfect desquamation and filling of the tubes with epithelium. The urine, therefore, is not secreted at all or very little, it remains consequently in the blood and uræmic intoxication is the result. Without proceeding in detail with an argument we will conclude by saying, that the character of the urine and its secretion, the state of the kidnies as observed, the condition of the pupil and the character of the coma make it patent to the writer that that they were each and all cases of uræmia, and of the grave sequlæ of scarlatina.

THE PERSULPHATE OF IRON

AS AN AGENT FOR THE DESTRUCTION OF POLYPUS OF THE EAR.

By E. L. HOLMES, M. D., of Chicago.

Any one who has had much experience in the treatment of Polypi in the external meatus of the ear, is aware that, while in some cases their entire removal is attended with comparatively little difficulty, in others, a radical cure is not easily effected.

Polypi can sometimes be eradicated by means of a loop of fine wire, passed round them near their attachment to the walls of the meatus. But it is often difficult to adjust the loop in such a manner as to secure the entire removal of the growth, especially where the pedicle is broad and where its exact situation cannot be ascertained.

Instead of the wire loop, we prefer, where instrumental interference is indicated, the use of the wood forceps or the ring forceps of Toynbee. In favorable cases either of these instruments can be passed a suitable distance into the meatus and the polypus seized and extracted. These tumors are liable, however, to return, unless the small portion, which generally remains adhering to the lining membrane of the meatus, is wholly destroyed by astringents or caustics.

Many attempts have been made to destroy polypi of the ear with caustic agents, and several authors report cases in which they have been successful in their use. Toynbee relates the history of several cases in which he removed the common "Rasberry Polypus" by the use of Potassa Cum Calce carefully applied to the exposed surface of the tumor, the process being repeated daily, till the whole structure was destroyed. The same author also states that the small red vascular polypi, which usually grow from the upper part of the meatus near the membrana tympani in young children, and which are rarely larger than a small pea, may be destroyed by milder astringents, such as Liquor Plumbi Subacetatis, Zinc. Sulph, and Tannic Acid. He believes, however, that the removal of the fibro-gelatinous polypi cannot be effected by means of caustics, since their structure is so firm as to resist the action of these applications.

After reading the report of one or two cases, in which nasal polypi had been destroyed by some of the salts of iron, I was induced, in two cases of polypi of the ear to try the effects of Persulphate of Iron, now so much used as a styptic.

The first case was that of a lady about thirty-two years of age. No satisfactory account of the origin of the polypus

could be obtained, for, although the patient had been for a long time troubled with dullness of hearing and a disagreeable discharge from the ear, the polypus had not been detected till some time after the appearance of these symptoms. An attempt had been made to remove the tumor, but it soon returned with symptoms much aggravated. Six months after the operation she came under my care much worn and debilitated by pain and loss of sleep. The swelling and tenderness below the ear were so great as to render all motion of the lower jaw impossible. The polypus almost entirely filled the external meatus, and presented the smooth glistening appearance of an ordinary tumor of the same species. There was so much nervous excitement, and the ear was so sensitive to the least touch that it was thought best to administer chloroform in order to make as thorough an examination as possible. On introducing a probe along the lower surface of the meatus, about half an inch, the bone was found denuded and roughened. I succeeded in passing a loop around the tumor and extracted a large portion of it, removing as much as possible of the remainder with a pair of forceps. On the next day the symptoms were the same, except that the pain was less. But at the end of a fortnight the tumor had returned to nearly half its former size. I had made use of of instruments in this case because I feared the Persulphate of Iron might destroy the tissues around the ulcerated portions of the meatus, and thus produce a larger necrosis. I therefore determined to use it in the following manner: I prepared small cylinders of the sault about a quarter of an inck in length and scarcely a line in diameter, from a thick paste of the iron and mucilage well rubbed together. Into a puncture, half an inch deep, which I made in the tumor with a narrow knife, I introduced one of these cylinders. On the next day the pain had not increased. On syringing the ear gently with warm water, and drying the passage with tufts of cotton, I found the meatus closed with a hard gray mass, which, on removal, proved to be a large portion of the polypus firmly coagulated. Another cylinder was

introduced in the same way the next day with the same result. Subsequently I merely applied small quantities of the salt to the polypus, keeping it in place with a bit of cotton pressed firmly against it. This was repeated daily, the quantity of iron being decreased as the deeper portion of the polypus was reached. This was soon completely destroyed, and in a week or ten days two small lamina of bone exfoliated, and the ulcerated surface of bone healed. At the present time, three months since, the termination of treatment, there has been no evidence of the return of the polypus; but the hearing is almost totally lost, and the jaw is still somewhat confined in its movements. The health of the patient, however, is completely restored.

The second case in wich I have used the Persulphate of Iron was that of a girl, thirteen years of age. The presence of the polypus had not been detected till a short period previous to visiting me for the first time. It was a glistening fibro-cellular growth, quite firm in consistence, extending nearly to the external opening of the meatus. Twenty-four hours after the introduction of a cylinder of the salt, as above described, I removed a large piece of the polypus, firmly coagulated. I afterwards applied the dry powder, daily, in small quantities, to the tumor for a week, at the end of which time, it was wholy destroyed. Quite a small red surface near the membrana tympani, on the posterior and lower wall of the meatus, probably the place of attachment of the growth, remained covered with granulations; but these disappeared in a few days under the influence of the iron. In neither of these cases did the salt produce much pain; except from one or two applications there was *no* pain caused by the treatment. After applying this salt several times to mucous membranes and to surfaces covered with the most delicate cuticle, I am disposed to believe that there is little danger of injury to the adjacent tissues, either in polypus of the ear, nose, or of the uterus, when applied with care.

A more extended experience will be necessary to establish the absolute vaque of this agent in the destruction of polypoid growths.

PITTSBURG LANDING.

Happily for us our experiences are the profits of life, which can be invested as other capital in improving ourselves or others.

Our Donelson experience gave ample opportunity for improvement in similar succeeding expeditions. Many unlooked for embarrassments owing to imperfect preparation were remedied, and our enterprise an entire success.

Our Sanitary Commission were telegraphed on Tuesday succeeding the battle for a supply of surgeons and nurses by Gen. Strong of Cairo. By 5 o'clock in the afternoon the following surgeons were on board the cars:

Drs. Ingals, Lynn, Isham, Ross, Amerman, Hamill, Davidson, Fisher, Bloodgood, Miller, Gillett, Allen, and myself.

Medical Students Mehler, Beasley, Zahn, Hollingsworth, and Annis.

Forty-eight nurses accompanied us, among others, Rev. Mr. Patton, Rev. Collyer, Messieurs Chadborn, Mason, Eddy, Judge Scates, etc.

We were sent in a special train, and made good time, nothing occurring to interfere with our progress or enjoyment of the trip. It was cheering as we left our cold and overflown prairie, to notice, as we progressed, the gradual change, marking our change of climate. The grass began to carpet the earth with its green tapestry, while the bursting beauty of the blossom covered peach tree, and the woods manting themselves in expanding foliage, were comforting changes to our northern eyes. While nothing did occur to interrupt our satisfaction, one of our surgeons came near being the subject of a hernial strangulation. He took off his truss upon retiring for the night, and inadvertently arose without reajusting it—and possessing a

repletion of abdominal viscera he was soon reminded of his remissness. His truss was one of an unusual pattern, and required so much explanation that he was well nigh exhausted, and if his flagging powers had not been well sustained we might have had surgery nearer than Pittsburg.

We had also a fine specimen of magic—one of the finest and most ingenious performances I have ever seen. A gentleman took a shawl, rolled up in the usual travelling style, cylindrical bundle, and placing one end of it to his mouth imitated drinking from a bottle, and so perfect was the trick (the reader will be interested in knowing that the peculiarity of the performance was in the operator's deceiving himself instead of his audience,) that he imagined he had drank, and from everything we could see he felt so. The effect, also, so far as we could judge, lasted about the time of three fingers. This was repeated at intervals for the amusement of our company, with unfailing relish.

We arrived in Cairo at 9 o'clock, a. m., on Wednesday, and found it one degree lower in my estimation—that of complete submergence. A few buildings along the levee are all the exceptions to be made. Venice with the exception of the Gondola. A child was drowned the next Monday while going to call its father to dinner.

We breakfasted by an arrangement of the Commission, and for a short time, owing to the conflicting and perhaps unauthorized rumors of departure, we seemed about to be garroted a while with red terror. But by the exertion of Mr. Pulta and Dr. Isham, we were transferred at once on board the Louisiana, a hospital boat just landed from St. Louis. This was a most fortunate arrangement for us, for on it we were fitted fitted out with comfortable berths and good food; all arranged and paid for by our Commision.

The "Louisiana" was an elegant boat for the purpose, admirably fitted up, corps of surgeons and nurses, apothecary with complete assortment of medicines, wooden bedsteads with straw beds or matrasses on them, all clean, comfortable, and in good order.

The boat surgeon was Dr. Wagner, a very quiet, civil gentleman, a West-Pointer, but, in my estimation, lacking the least bit of an article we sometimes call "snap" at others "gituip."

His assistant was as opposite as possible, all energy, vivacity, bright, exceedingly interesting, and very well suited to the other man's place.

We had also our indefatigable Dr. Douglas, who gives every indication of being a man for the place he fills. He is gentlemanly, attentive, accommodating and industrious, qualifications pleasant to those having intercourse with him and satisfactory to his employers. We had also Dr. Simmons, the medical director for Cairo. He is another regular army officer, and discovers his love for the color red—though very kind and think is disposed to do what is right, yet it is plainly hinted by those around him that subservience is no mean merit. I must not say much, however, as I may need his favor, and must not hazzard it by speaking too plainly. I was pleased with all I saw of him.

Our boat had a large, beautiful, yellow flag floating at the bow, the same used by all hospitals. Some fears were entertained of being fired into by guerilla marauders, but if there were any such near our flag, it protected it as it has done other boats since, while those not thus protected have been assaulted.

As we passed up the river, we began to notice the absence of enterprise—in bad buildings, no comfortable dwellings or convenient outhouses—and scarcely an orchard from the Ohio river to Pittsburg landing did we see.

About 10 o'clock we met the "City of Memphis," the same I came down on on my former trip, loaded with wounded. She was the first boat down with wounded. We asked her how many she had on board, and received the fearful answer *nine hundred and eight.* It would have made my heart sick had I believed it, but it seemed so improbable that by common consent we conceded it to be a mistake of *five hundred.* But we ascertained at Mound City, on our return, that she

actually landed *seven hundred and twenty* in the Mound City Hospital. When others went home and were sent other places. We thought when we had two hundred and thirty that we were much crowded on the same boat—but multiply that by four, and when and how they lived is more than I can interpret. They had tents erected on the hurricane deck, tarpaulins spread on the sides, and every possible foot of room every where occupied.

This seeming barbarity was rendered more satisfactory when we recollect that on the battlefield there was absolutely no acmodation for many—and that while to suffer intolerable crowding together, it was only for twelve hours, and they would be placed in comfortable and beautiful accommodations.

We met two others during the night, but neither was so heavily loaded.

During our passage, the two members of the Sanitary Committee accompanying us, Mr. Ptton and Dr. Isham, allotted to each surgeon his quota of nurses, who are to accompany him and be subject to his direction. This very much facilitated all our movements, and enabled us to work systematically and efficiently, and see that the curiosity hunters were soon satisfied.

We landed at our destination, Pittsburg Landing, Friday, at 4 P. M., forty-seven hours after leaving Chicago. This was more than gratifying to us when we found the great need of our services. I spoke of the benefits of experience in the begining of this, and this impressed itself on me at Donelson—that whem temporary assistants are needed at all, they are needed *at once*, and our Sanitary Committee should have everything organized in advance for such occasions, especially their transportation, so that they may be on the ground when most needed, before others arrive, and while the injuries received need most attention.

Our delegation had the honor of being the first voluntary organization represented there—though seven hundred miles from it.

Upon arriving our Commission went on board the "Tigress," Gen. Grant's head quarters, to confer with the Medical Director, Dr. Murray, and after some consultation we were assigned to different places on boats, and some to labor on the field among the tent hospitals.

Drs. Lynn, Ingals, Millar, Gillet and myself, were asigned to the "Hiawatha," with medical students Beasley and Mehler.

It had been raining all morning and was then pouring down rapidly, and when we undertook to pass on shore from our boat to the "Hiawatha it seemed a realization of some of the hardships to which our poor soldiers are exposed—infinite mud.

The constant passing of wagons, horses, artillery and men, with the incessant rain makes travel almost impossible, and there were horsemen and footmen, and wagons loaded and unloaded picking their way through endless mud of untold depths. Some balky mules were giving variety by allowing their drivers a chance at their epithetical vocabulary. Some had run out and began at the beginning again, and the mules still looking at them.

Footpaths are made along the hill-side above the wagon track, and it was a touching sight to see there, rolled in their blankets, bodies of several soldiers who had died on the boats and been brought and laid there, with their open glazed eyes looking up towards heaven, from which torrents of descending rain saturated their blankets and filled their sunken sockets, each passer by stepping over them, no kind friend to protect or care for them, even the natural ties of friendship being shivered by the stern necessities of war.

We found the landing paved for the last few yards of our way with beautiful sacked corn, which was not being improved by its position.

Upon arriving at our boat, we found it occupied by about sixty officers, who had been wounded and brought on it from the field, converting it, without any calculation, from a transport into a hospital boat.

There were twenty-five privates. The boat was under charge of Dr. Roskiton, of Gen. McArthur's Division. He is a German, and it is with some reluctance that I express my surprise that such a man can obtain the position he occupies. It convinces me that favoritism forwards more than merit. So far as I could judge, and it was the universal opinion of my companions as well that he did not possess a single qualification for the place he filled. He was unable to get his outfit of stores, had the patients lying in utter confusion, and the only operation I saw him perform, was trying to squeeze pus from an edematous eyelid. When it was found by the medical director that he was incapable of taking care of himself even—he added insult to injury by sending a Dutch assistant surgeon to superivse him.

We received occasional accessions of wounded that night until we numbered about one hundred. After arranging our patients, and dressing their wounds, Mr. Collyer and myself went aboard the "Chancellor" lying along side of us. The scenes there could not be described, in their true character were all the adjectives in our language applied to them. Men with every conceivable injury, and suffering with both pain and hunger, with nurses worn out, no attending surgeon, the boat being a Commisary boat, converted, as was our own, by force of circumstances to surgical uses, a hospital steward doing for them the best he could—numbering over three hundred, laid in every possible, except comfortable, position, on boxes, barrels, staves, sacks, on the hard floors, with wounded, mangled limbs resting on the uneven surface of a row of barrels, some resting on the guards of the boat, with no tarpaulin to keep out the drifting and drenching rain; others on the lower deck, almost covered in mud, among the boilers, in the dark, no one to attend, with any certainty, to their wants or sooth their sufferings, very many in the most exquisite agony, resting on the hard floor, with nothing but a single blanket to shield their fevered and aching bodies, from the unfeeling boards. And yet, in the midst of all this, you seldom hear

them complain. A soldier must be very severely wounded to make any noise. In most cases a real cheerfulness is present. We took some wine and gave it to them, and labored for some time to get them as comfortable as possible.

The next day (Saturday), found us with our complement of wounded, near three hundred. We managed to get part of our army stores on board, and so far as any one of us could see, were ready to go. But it seemed almost impossible to to get away. I asked our boat surgeon what was keeping us, why not start Saturday night? He said the pilot did not want to start at night, and besides, *he had not enough wounded, if he started with so few, charges would be preferred against him.* At that time every available point was occupied, except on the hurricane and boiler decks.

In that condition we stayed from Saturday until Sunday noon, with our two Dutchmen spinning arounnd each other, as if practicing a new edition of the lancers, until Director Simmons came aboard, and I asked, what in humanity's name we were waiting for?—why these men, wounded and suffering might not as well be lying in the Hospital at Mound City as in that boat? He could give no answer for the delay, except the stupidity of our asinine Dutchmen. I wish I could letter their hats. I would substitute U. A. S. for the ones I saw them sporting. He gave me the order, I carried it to the captain, and we were off. On Sunday we had a very agreeable and important addition to our stores from the Cinic. Sanitary Committee's boat. Very many things we were absolutely and hopelessly destitute of were kindly supplied by them, and we will not soon forget the kind generosity of their purveyor, Mr. Griffin, I think his name was. I was intrusted with the surgical management of the boat, and divided it into wards, assigning each surgeon his place with his nurses.

In my last letter I felt in duty bound to express an opinion relative to female army nurses. I shall never change it, but the place then suggested as proper to be filled by females, had my typical idea of all that is true and noble to fill it for our

boat. I refer to Miss Safford, of Cairo. She embodies my idea of what a female should do and be, to accomplish her mission as an assistant to care for wounded men. She is active, kind, sympathizing, disinterested, prudent and indefatigable. She came aboard our boat, and we entrusted her with our cookery. It was a most trying place to come, where there was nothing, and organize and set in motion machinery that should supply the hungry wants of three hundred, and diversify it to suit the capricious appetites of sick men. So well did she succeed, that our men had the next meal after she came on board at meal time. And so from day to day, everything worked by her management smoothly and perfectly, and it seemed the crowning glory of our mission to see this difficult part of hospital service so admirably rendered. I regard her as the Florence Nightingale of this war.

The kind of food served out by the Commissory, is, of course, ill fitted for use of sick men, and the supplies of delicacies from our Sanitary Committee and Cinics came in most excellently. The hard bread is a very serious draw-back to good living, and many a jest goes off at the expense of the well named bread. It is said to have been in service as rooffing and pavement for six months without moistening through. One soldier of an antiquarian turn of mind, declared that one box marked B. C., meant *Before Christ.* Another converted it to a hitherto untried use. His leg was broken, and there being no splints, the surgeon found he had bandaged his up, using a *hard cracker as a splint!*

This last is really true, and a soldier witnessing the operation, cried out "Bully for the bread." We had an addition of three surgeons to our corps before leaving Drs. Roberts, Owen and Hamilton, all, I think, from Carbondale.

The class of cases we had on board were not so serious as those on my former trip. Our wounded were brought mostly from other boats, and the lighter cases were selected for moving, though many of them were severe enough. One young man was brought on in *articulo mortis*, and one Capt. Stevens,

of Dixon, died. His leg had been amputated, and I am sorry to say did not appear to have been performed according to the light that surgeons of this age should have before them. He was a noble fellow, was suffering at the time of the battle with dysentery, but would not stay behind, no doubt, the depressed state of his constitution helped to secure the final result. We had on our boat the gallant Col. Moore, of the 21st Mo., who had also lost his right leg. There was a slight tendency to secondary hæmorrage in his case, but it had amounted to nothing when we left him at Mound City.

The amputations showed a remarkable atonic tendency. None seemed to take on a vigorous healing character. One fine intellectual-looking German, with an amputated limb, was constantly delirious. There seemed no reason, so far as appearances went, why he should not get well, yet he went slowly down and was in *articulo mortis* when we left him. One case of a German interested me. He was shot under the lower extremity of the left scapula—and I took out the battered ball between the lower border of the larnyx and the right sterno mastoid muscle, directly in front of the vessels. He had spit blood at first and suffered pain, but now seemed to be doing well, eating every meal. When he was asked if ever he had seen fight before, he turned up his shirt, and his scarred body needed no confirmation.

We found many wounded in the lower extremities, some accounted for it by the repeated order of Gen. Beauregard "to fire low—never kill when they could cripple—that it required two well men to care for each wounded one, while dead men took care of themselves."

The battle of Pittsburg Landing was eminently disastrous. I could calculate from the number on various boats and in Savanah, nearly six thousand, and how many more are in tents and more slightly wounded I had no means of ascertaining. There were in Savannah, eight miles below, for the first few days after the fight, twenty-one hundred scattered in twenty different places; all the houses, churches, or places

capable of holding them being occupied. These were supplied with seven surgeons. Imagine the services rendered to three hundred freshly wounded men by one worn out surgeon?

The surgeons on our boat worked nobly, and their labors accomplished every thing anticipated. Our medical students had a rich treat, and a surgical feast.

There was but one surgeon who failed in his trust, and he certainly deserved all the contempt he received. He constantly presented himself at the apothecary desiring stimulants for his patients, which they as regularly did not get. This continued until he was drunk, suspicion was aroused, he detected drinking it, admonished, and subsided. I have no desire to injure the feelings of this man or his friends, but would say that if he cannot control himself he had better not sell the birth-right of his manhood quite so cheap. I withhold his name, suffice it, he was *not* from Chicago.

The arrangements for the care of the wounded are perhaps as good as can be under the circumstances. The Medical Directors are all complained of, and it is interesting to notice what efforts they make to convince you how entirely the whole army is dependent on them. "Why," said one of them to me, "I cannot get anything to do with, why, sir, all I have is obtained at the point of my sword." They are the most persecuted and self-sacrificing men in all the world if they don't deceive themselves.

The system of temporary volunteer aid adopted by Sanitary Commissions and States, undoubtedly has its great merits, and it is difficult to see how it could be superceded. Almost anything good can be diverted to unprofitable ends. It has been very plainly insinuated that on such occasions, when surgeons are temporarily given the oportunity of using the knife, that the opportunity is seized and appropriated to their own instead of their patient's benefit. It would not do to go home without doing an operation, and conservative surgery is lost sight of.

There is, of course, an abundance of surgery to be performed, and where they are competent there is no reason why

volunteer surgeons should not relieve those who are worn out. On one boat the amount of surgery to be done was only limited by the endurance of the surgeons, and yet I am acquainted with and have every confidence in the gentlemen on board. Yet I have seen some very bad surgery done. There should be some competent man on every boat, and in every hospital, who should be held responsible to the Director for the conduct of his assistants. Many who go are reckless, and would rather have the credit of having amputated a leg than save the life of the best man in Christendom.

Our boat left Pittsburg Landing at noon on Sunday, and arrived at Mound City Hospital on Monday, at 2 o'clock, P.M. We had a few slight cases of Erysipelas on board, but none of any severity. The weather being mild, we kept our cabins ventilated, no odors accumulated, and we escaped. Our men were cheerful and grateful, and when we parted from them gave us pleasing evidence of their appreciation of our priceless labors.

CHICAGO, April 20th, '62. R**.

A CASE OF PUERPERAL CONVULSIONS

IN CHARGE OF DAVID DODGE, M. D., CHICAGO.

Mrs. H., aged about thirty, primapara, at about the seventh month of pregnancy, complained of restlessness and headache. It could not be ascertained that there had been previously during pregnancy, anything out of the usual course. Nine weeks previous had been awakened at night by a severe pain in the head, "as though something had struck her." She is of good figure, and evidently of strong constitution, having never been sick, and by no means of a nervous temperament.

Her husband being about to leave town for a few weeks, requested Dr. D. to call and prescribe for the difficulties above mentioned. Prescribed a mixture of rhubarb, magnesia and aromatic water, to relieve the constipation present. Little or none of it, however, was taken.

Wednesday, at 5 P. M., Jan. 14, the occupants of an adjoining room, heard a sudden fall in the patient's room—on entering, found her on the floor, insensible, and in strong general convulsions. Dr D. was immediately sent for, he arrived in about ten minutes from the access of the convulsions, at which time the convulsive action had ceased, but she remained in a state of insensibility.

Applied rubefacients to the extremities and exhibited an antispasmodic mixture composed of Lac Assafætida, Fl. Ext. Valeriana and Sulph. Ether. Convulsions returned violent in about fifteen minutes. After second convulsions, endeavored to exhibit a cathartic dose, ten grs. of calomel, with ipecac. Very little was swallowed. Convulsions continued recoming about once in fifteen minutes.

Dr. J. A. Allen came in consultation at about 8 o'clock. Exhibited fifteen grs. calomel, with two grs. of ipecac and half a grain of sulph. morphia, enemata of lac assafœtidæ, chloroform inhalations to moderate severity of convulsions.

The intervals of repose gradually lengthened, and the paroxysms became less severe, until between 3 and 4 o'clock A M., when they again became more and more frequent and violent, and on examination it was found that uterine contraction was commencing, the os uteri so patulous as readily to admit the finger. Convulsions continued with fearful severity, apparently very little controlled by the chloroform until about 7 o'clock, when a free evacuation of the bowels, showing powerful influence of the mercurial, took place accompanied with a free discharge of high colored urine, upon which the convulsions became much less frequent and powerful, postponing at one time nearly an hour and a-half.

Uterine contraction tolerably regular once in twenty or thirty minutes, but weak. *Os dilatable.* Ordered Secale Cornut., diffused in water, about ℥ij by enema. The pains became stronger, and the fœtus was expelled about 3 P. M., dead, but not decomposed. It may be remarked in passing, that for two months the movements of the fœtus had been remarkably

feeble, so much so as to alarm the mother, who having been a staunch Hydropathist, undertook to strengthen both herself and child by frequent cold baths, after which it appears there was little or no reaction.

At 5 o'clock, P. M., subsequent to delivery, she had another strong convulsion.

Exhibited ten grs. Calomel with a grain of Ipecac, and directed the attendant to stand by the bedside and on the first appearance of restlessness, such as had previsusly preceded a paroxysm, to cause the patient to inhale the Chloroform freely.

The Chloroform prevented the development of the convulsions perfectly, but the inclination continued until a little after midnight, when three full and free evacuations of the bowels taking place, the tendency passed away and she had no further difficulty beyond that ordinarily experienced after a severe labor.

The first time she spoke or showed signs of consciousness, was after the first evacuation of the bowels secured Wednesday morning—full consciousness began to be manifested after the large evacuations Thursday morning, a little after midnight.

She remained more or less disturbed in mind, and dull, for three or four days.

Among the incidental and troublesome symptoms, may be mentioned the immense accumulation of mucus in the throat during Tuesday night and Wednesday, requiring constant attention to prevent its producing mechanical suffocation.

The general plan of treatment adopted in the case, thus briefly sketched, was adopted on the general idea that morbific material was retained in the system, thus by its abnormal presence producing pain, then convulsive phenomena and then insensibility.

The indications were to control the disordered innervation giving rise to the inordinate muscular contraction ; and second, to eliminate the morbific material. Simple anti-spasmodics, then Morphia, and then Chloroform were employed to meet the first indication.

Calomel, believed to be the most potent of known eliminants, was employed to meet the second. Its more speedy general influence was to be favored by the adition of Ipecac.

The cause of Puerperal Convulsions may act primarily, either upon the central ganglia, or at the peripheral distribution. In the former case eliminants are indispensible—in the latter, large reliance may be had upon such agents as the Chloroform and Antispasmodics. Where the cause is clearly peripheral, (Ex-centric,) eliminats are of less importance. Where it is central in action, they are all-important. The sedative influence of blood-letting will occasionally be found useful in ex-centric cases—in centric cases it is clear, both "theoretically," and (fearfully so) practically, that *it is not a remedy* but something else.

When the cause of the disease operates so profoundly as to give rise to parturifacient contraction, unless anodynes and Chloroform fail to arrest the pains, it is better, when they are tardy, to centralize and intensify the uterine contraction by Secale or some similarly acting ecbolic. Indeed in many cases depending upon excentric causes, the convulsions will cease at once on the supervention of powerful uterine contractions, either spontaneously or by the effect of Ergot. On the other hand, we have seen cases which clearly evinced that Ergot may by irregular action, or when there is continuous mechanical obstruction, positively produce Eclampsia. This is no paradox to a physiologist with brains.

When time will admit, other eliminants may be employed, and especially dierutics, at the head of all which latter still stands the Acetate of Potash. In the present case owing to the great difficulty in swallowing but little could be used, and the main reliance was placed in *old* Calomel and *young* Chloroform.

SELECTED.

THE ACTION OF THE VOLUNTARY MUSCLES.

By LOUIS MACKALL, M. D.

[Extract from an unpublished work.]

69. The action of the Vountary muscles is regarded by the law of nature that we have already stated, (37.) By virtue of this law, the determination of the nerve-fluid* to a muscle is immediately followed by the active elongation of its fibres; the contraction of a muscle or of its fibres as immediately follows the withdrawal of the nerve fluid. In other words, the presence of the nerve-fluid, its cause of action, is, by virtue of this law, always attended by an active elongation of the fibres of a muscle; while the absence of a due portion of this fluid is as constantly attended by the contraction of its fibres.

By the aid of this law of nature, we have explained, I think, in a plain, intelligible, and rational manner, the phenomena presented in the action of the involuntary muscles, that are placed about the walls of the tubes or hollow organs; by the same aid, the phenomena presented in the action of the voluntary muscles may be as rationally and intelligibly explained.

70. The minds of Physiologists of the present day are so fully impressed with the erroneous belief, so long inculcated in the books, that the active state of a muscle is that of contraction, and the elongation of its fibres, (a state of which they possess a very imperfect and false notion,) which they are pleased to call relaxation, is a passive state, that the converse of this proposition, as presented above, will be at first regarded by them with prejudice and aversion. The true law of nature in relation to this subject, however, when its application is attended to, in the extensive application of it we propose to present, must in time be acknowledged; if truth, as is said, has a tendency to prevail over error in the human mind.

71. When we use the term muscle, it should be understood to embrace both the tendinous and fleshy portions of the organ; the same fibres, we conceive, extend through the whole, and are influenced by the cause of action, the nerve-fluid, as well in the tendon as in the fleshy part. The latter portion differs

* Why is this term still allowed to disfigure scientific medical writing?—Ed. Jr.

from the former probably only in the circumstance of being more largly supplied with nerves and blood-vessels, by means of which, when the muscle is in a state of action, the special circulation of the nerve fluid (43) is established.

72. For the better illustration of their action, it will be found convenient to seperate the voluntary muscles into the four following classes, viz: 1st. Such as are attached by one extremity only, having the rest of the muscle free to be extended or retracted at will; 2d. Such as are attached at both extremities, but are capable only of the same motion as the former class, that of direct extension of retraction; 3d. Such as are arranged circularly about the openings of the organs, and serve as sphincters; and 4th. Such as are attached to the bones at both extremities, and act by making use of the bones as levers.

THE ACTION OF THE FIRST CLASS OF VOLUNTARY MUSCLES,

That are attached by one extremity, and have the rest of the muscle free to be extended or extracted.

73. Of the action of this class we will advert to that of the muscles of the tentacles in the lower orders of animals; and among the higher orders, to that of the muscles of the tongue, of the ciliary processes, and of the male Organ of generation.

Perhaps there is no other instance in nature, in which is presented so fairly and clearly, the true condition of a muscle when in a state of action, as in that of the action of the muscles of the organ last mentioned. Physiologists, by a resort to Sophistry, of which we shall speak again, have ignored the action of these muscles, which is the same with that of all other muscles; for the state of erection produced by the action of these muscles is common to all the muscles of the living body when in action. Every muscle when in action is in a state of vital erection; which term should be understood to express simply the active elongation of the fibres, with a due supply of blood and of nerve-fluid to maintain this state. In the Human subject, the true character of the organ of which we are speaking is masked, as it were, by the great development of the blood-vessels and nerves with which it is supplied; but this is not the case in some other species of animals, as in the Horse, the Ox, the Hog, and the Sheep. In these the main body of the organ is composed of longitudinal muscular fibres that may be actively elongated to a length of from twelve to twenty inches. The view of muscular action heretofore presented may be repeated in connection with the instance before us.

74. The suggestive impressions, appointed to precede the active state of this organ, having been duly received, the anima determines the nerve-fluid, in an extra supply, to its fibres through the sensory and motory nerves of this organ. In consequence, the proper longitudinal and other fibres of the organ become actively elongated, together with the fibres about the walls of the vessels and sinuses, in which there is an increased flow and accumulation of blood. With this accumulation of blood there is established the special circulation of the nerve-fluid to this point; the supply of this fluid is thus further enlarged, and the action of all the fibres is exalted to its extreme limit. This latter state of the organ is expressed by the term "Venereal orgasm.'

75. In this representation of the action of muscles, there are three points to which we desire to direct attention: the first is, the propriety of regarding the organ in question as a muscle attached at one extremity by two heads to the ossa pubis and ischia; the second is, *the active elongation* of the proper fibres of this muscle; and the third is, the *stiffening or rigidity* of the same fibres when in action. The two latter points are particularly worthy of attention, as they occur in every instance of muscular action, and what is very strange, have been entirely overlooked by physiologists.

76. The Ciliary processes are the small muscles or bundles of muscular fibres that are attached by one extremity to the margin or verge of the opening into the eye, called the pupil; and are so arranged that by their extension the pupil is diminished or the opening narrowed, and by their retraction the pupil is enlarged or the opening widened. Light is appointed to be the appropriate suggestive impression to precede the action of these muscles. When the eye, in its normal condition in the living body, is withdrawn from the light, the mind, not having received this suggestive impression, does not call into action these muscles, and they are consequently retracted, and the pupil is enlarged; but when the eye is brought into the light and the impression is made, the mind determines the nerve-fluid to these muscles, and they become extended in proportion to the supply of this fluid; by their combined action the pupil is diminished or narrowed, so as to exclude such quantity of light as might be injurious to the optic nerve.

Here again we have a Vital erection, in the essential conditions—the active elongation, and apparently the stiffening of the fibres; and it is worthy of remark here, that in inflammation of these and the adjoining parts, as in iritis, there is estab-

lished the special circulation of the nerve-fluid to these fibres, and they become persistently elongated, and the pupil continues to be narrowed even when the eye is withdrawn from the light.

77. The longitudinal muscular fibres of the Tongue (with a view to the elucidation of the action of this organ) may all be regarded as one muscle, that is attached at one extremity, with the other parts free to be extended or retracted at will. The active elongation or extension of these fibres when innervated, or when in action is manifest in our own persons, if we confine our attention to the fibres in question; but this active elongation of the tongue in some of the lower orders of animals is very remarkable. Every one is familiar with the protrusion and elongation of the tongue of some of the domestic animals, as the Dog, the Cow, &c.

This action of the tongue of the Serpent is deserving of particular notice. When the animal is aroused or excited, it erects its head and trusts out of its mouth its forked tongue, to the extent of several inches. The suddenness and celerity of the motion of the organ forcibly reminds us of the appearance of a flash of lightning.

It is impossible, I believe, to suggest any rational explanation of this phenomenon, other than that of the innervation and consequent elongation of the fibres of the muscles that belong to this organ. The suddenness and celerity of the motion precludes all other agency but that of the nerve-fluid, passing along the nerves; which alone resembles in its motion that of the Electric fluid.

The action of the tongue of the Frog or toad, when it seizes its prey, is similar to that of the serpent.

78. A notable action of this kind is presented in that of the tongue of the Chameleon. To facilitate its description, this organ may be divided into four parts; first, the anterior bulbous portion, formed by the interweaving of cellular and muscular tissues—with the appearance of the end of the trunk of the elephant, it is furnished like this with a fleshy forceps at the extremity, with wich the animal seizes its prey; second, the middle or interior portion, *composed entirely of cellular tissue formed into a number of bands or hoops, having the intervals between them supplied with very loose and extensile meshes of this tissue;* third, the lingual bone, being a process from the centre of the os hyoides, arranged in the direction of the tongue, on which, when the tongue is retracted, the cellular bands and meshes of the second portion, and a part of

the bulbous portion, which is hollowed out for this purpose, are stretched or drawn, like the finger of a glove drawn over the finger; and forth, two well-developed muscles, having their fibres arranged longitudinally, and largely supplied with nerves and blood-vessels. These muscles arise from the cornua of the Os hyoides, one from each, and being arranged one on each side of the tongue, or of the central cellular portion, are inserted in the bulbous extremity.

When in a state of repose, or when retracted within the mouth, the organ is from an inch to an inch and a half long; but when about to seize its prey, commonly an insect, the chameleon creeps to within seven or eight inches of the object, and then fixing its body, and taking aim, as it were, suddenly, and with the celerity of lightning, thrusts forward its tongue, and seizes the insect with the fleshy forceps at its extremity. The food thus taken is then drawn into the mouth by the retraction of the organ.

79. If what we have suggested be admitted to be the true law of muscular action—if innervation, or the determination of the nerve-fluid to a muscle, is attended with the active elongation of its fibres, there is no difficulty whatever in comprehending or in offering a rational explanation of the phenomenon before us. The animal, it will be understood, determines its nerve-fluid to the lingual muscles, and the tongue is extended to the distance mentioned, simply by the active elongation of these muscles. The food is also drawn into the mouth by the retraction of the same muscles, caused by the withdrawal from them of this fluid.

But what explanation of this phenomenon can be given without the aid of this law? We give the only one we have met with worthy of any notice, that of Mr. John Hunter, in his own words, taken from the "Illustrated Catalogue of the Hunterian Museum."

"This length of tongue, its extension and contraction, are very singular, and if we well understood, very probably very curious.

"The cause and mode of the contraction of its length are not uncommon. The elongation of the tongue in this animal is perhaps like nothing that we are acquainted with in an animal body.

"The apparatus for this purpose is a small rounded body which passes from the apex of the os linguæ (glosso-hyal) to the bulbous part, and then through the centre of the bulb. The part between bone and bulb consists of two different sub-

stances, one a whitish substance, which is the firmest, and appears to be capable of keeping its form; the other is softer and more transparent. That part which passes through the bulb consists only of one substance, and appears to be a sheath for the reception of the os linguæ." The reader will please recollect that the apparatus, here described by Mr. Hunter, is nothing more than the bands and meshes of *cellular tissue* of which we have spoken above. But let him proceed:

"The first of these (*i. e.* the whitish, firmer substance) appears to be composed of rings or something similar placed obliquely in contrary directions, so as to appear to be two spirals crossing one another. Whether the other or softer substance" (the cellular meshes, L. M.) "has any direction of fibres I could not observe, but I suspect it is muscular. If I am right in my conjecture of this structure, and of its disposition, it will be no difficult thing to show how it may be elongated; for if these rings are placed transverse, they may be brought so near to one another as to shorten the whole very considerably; and if they allow of being placed almost longitudinally, they must of course lengthen it very considerably, and this position can easily be produced by muscles, which I take the pulpy substance to be.

"The contraction of the tongue is owing to a degree of elasticity; but this appears to be only in the cellular membrane, acting as an assistant to the muscular. The muscular contraction is owing to two muscles, one on each side of the tongue; each arises from the os hyoides on the inside of the os linguale, and passes along the side of the tongue to its bulbous part; but before it gets to the bulbous part it spreads itself all round.

"In the centre of each of these two muscles passes a considerable nerve to the bulbous part, and also two arteries. When the two muscles act, they draw the tongue back upon the os linguale, which, as it were, passes through the middle elongator, then through the centre of the bulb, till the whole tongue is retracted. Although the middle body is drawn upon the os linguæ, yet it does not appear to be a hollow like a pipe; it rather appears to be filled with a very ductile cellular membrane, as in every part of the elongating division of the tongue, in order to allow of the great difference in the situation of parts with respect to one another." (Hunterian manuscript.)

80. The Ant-eater (Myrmeco-phaga) furnishes a remarkable instance of the action of the muscles of this class. The tongue

of this animal is composed of two distinct muscles having different origins, and a different disposition of fibres. To simplify the subject, we may say one of these muscle arises from the sternum, and passing along through the muscles on the anterior surface of the neck, terminates at the tip of the tongue—its fibres being all arranged longitudinally; the other muscle arises from the os hyoides, passes around the former longitudinal muscle in close spirals, forming a sort of case or sheath for it, and terminates with it, at the end of the tongue.

When quiescent, or in a state of inaction, the tongue of the Ant-eater is probably about six or eight inches long; but when thrust into the ant-hills to secure its prey, Naturalists tell us, it is elongated or protruded to the extent of *seventeen* or *eighteen* inches.*

The object attained by this curious arrangement of the muscles, in accordance with our view of muscular action, is evidently, the free and unimpeded extension of the longitudinal muscle to its full capacity, by preserving it fibres, nerves, and blood-vessels from external pressure, while threading the narrow passages of the ant-hill through which it is forced. This object is fully accomplished by the action of the spiral muscle, which tends to dilate these passages, or at least, to enlarge and keep open the space enclosed by it, in which the longitudinal muscle acts.

In the absence of this view, Physiologists have been forced to adopt the very absurd supposition, that the tongue of the Ant-eater is protrude by the *contraction* of its *spiral muscle!*

81. The Woodpecker, as is well known, feeds on the grubs that burrow into the limbs and bodies of trees. The burrows are first exposed by pecking through the bark with its strong, sharp bill, and then the long tongue, like a flexible probe, is thrust in, as the Ant-eater's into the ant-hill, and the grub being harpooned, as it were, is dragged forth.

To adapt the organ to the purposes mentioned, the anterior portion of the tongue—I refer more particularly to that of the species called the Flicker, (Picus aureatus)—is composed of a horney, spear-shaped, barbed point; from this point there arise two muscles, tendinous at each extremity, but with fleshy bellies or middles—their fibres longdituinal; these muscles pass around the base of the cranium, one on each side, and then rest with free extremities in a groove or closed passage formed between the skin and cranium, and extending over the

* Curvier's Animal Kingdom, edited by Griffith, vol. iii, p. 300.

middle of the head from behind forward until it reaches the base of the upper Mandible. Besides these, two other muscles arise, one from the ramus of the lower mandible on each side, and pass around the longitudinal muscles, forming a sheath for them through their whole length. The arrangement of these muscles are strikingly similar to that of the muscles of the tongue of the ant-eater, and doubtless their functions are the same. When the longitudinal muscles are innervated and elongated, the upper bill, which is then applied to the tree, becomes the basis or part of resistance, from which the tongue is protruded into the burrows; the other or spiral muscles acting, as suggested, when speaking of that of the ant-eater, to preserve the fredom of the motion of the former, by protecting from external pressure the blood-vessels and nerves with which they are largely supplied.

The notion suggested by some, that the tongue is jerked forward by the contraction of the last-mentioned muscles, is absurd; as the means suggested are clearly inadequate to the end proposed. The contraction of any portion of these muscles could not effect a motion of the tongue to the extent of one inch, but, if contracted, the portions anterior to their origins would draw the tongue back, and counteract the effect of the contraction of the portions of these muscles that are posterior to their origins, so that no effect of the kind suggested, could result from the contraction of these muscles. The tongue is thrust into the burrows, probably to a distance of from five to eight inches, judging from the extensibility of the organ in the living or recently killed bird.

The longitudinal muscles of the tongue are commonly regarded as the cornua of the os hyoides, but I think it more rational to regard them as muscles (as their appearance clearly indicates) belong to this class, attached at one extremity with the rest of the organ free, to be extended or retracted at will.

82. The "Aij-Aij" is an animal whose habitat is confined to Madagascar. It presents several points in its natural history closely resembling those of the woodpecker. Like this, it feeds on a grub that burrows in the bodies of trees in that island; and it exposes these burrows by tearing off the bark with its teeth. The animal then introduces a long flexible probe, and pulls out the grub. This probe, however, is not the tongue; but one of the fingers of one of the fore-paws, which is curiously adapted in its structure to this purpose. The anatomy of this organ is not generally known, but I presume, from the office it is said to perform, that it is similar to that of

the tongues of the Ant-eater and of the Woodpecker that we have just described. In its retracted state it may present the appearance of a "shrunken" or "atrophied" member, as is represented; but its muscles are, I doubt not, well developed, with large blood-vessels and nerves, and capable of an extensive action of elongation.

83. The Tentacles of some of the lower orders of animals are so similar in structure, in their action, and in the purposes they subserve, to the tongues of the higher orders, that we are induced to regard them as their analogues. These organs are composed of muscles with longitudinal fibres, that are attached by one extremity around the outer margin of the mouth, and are extended or actively elongated for the purpose of collecting and of bringing into the mouth, the food or prey that may be floating in the element these animals inhabit. When the animals are reposing, or not feeding, these organs are retracted; but when engaged in taking their food, the tentacles are innervated, and actively elongated or extended. In some instances, as in the Physalus, the Enychoteuthis, &c., this extension is carried to a distance of six feet or more.* For a more minute account of the structure and office of these organs, I refer to the works on comparative Anatomy and Physiology. Our theory of muscular action offers to the intelligent student a number of suggestions that will be found of great use to him in his efforts to understand the more complicated structure and action of some of these organs.

[The remainder of this valuable extract, kindly submitted for our disposal by the Author, will be published in the next number of this journal.—Ed.

PROSECUTION FOR INFANTICIDE.

Dr. H. Culbertson, of Zanesville, Ohio, in the "*Lancet & Observer*," after giving a condensed statement of the evidence in a recent trial for infanticide, offers the following valuable remarks.

We regret that our limits will not permit the full details of the case, with Dr. C.'s opinion, and its reasons, on the sanity of the respondent. The prisoner having been acquitted under

* General Structure of the Animal Kingdom, by T. Rymer Jones.

cover of *insanity*—which from the report seems altogether gratuitous nonsense.

I. What is the true value of the hydrostatic test as a proof of breathing?

The principal objections to this test are: (*a*) That lungs may be artificially inflated; (*b*) that they may be inflated by the gas of decomposition; (*c*) that children may live for a time after birth without the intervention of apparent respiration; (*d*) that emphysema may cause lungs to float; (*e*) that hepatization and tuberculation of lungs are objections; (*f*) that pneumonia is an objection; (*g*) that atelectasis is an objection.

We will briefly consider these points:

(*a*) It is now established beyond a doubt that lungs may be partially inflated while *in situ*, and float on water on removal from the body. That lungs may be partially inflated when removed from the body, is too well known to need mentioning; but that they may be fully expanded artificially when *in situ*, is disproved by the researches of the most modern and reliable writers. It is even, as is well known by nine physicians out of every ten, extremely difficult to restore a still-born child artificially, with all the skill that the practitioner may exercise, and the no inconsiderable vitality of the recently born child. It seems, too, that artificial inflation may be confounded with partial natural respiration; and here lies one of the greatest objections to the hydrostatic test. Imperfect respiration may be mistaken for artificial inflation, because by the latter the lungs are never fully expanded. But this source of error is fortunately removed by remembering the fact that even the partial inflation of lungs *in situ* requires great skill in its accomplishment; and, furthermore, it is the height of improbability that in cases of infanticide restoration will be attempted, much less completed, by the suffering mother. On this point Taylor justly remarks: "One might be led to suppose that every woman tried for child-murder had made the praiseworthy attempt to restore a still-born child, although circumstances may show that she cut its throat, severed its head, or strangled it while the circulation was going on."

From these considerations we may then conclude that, if lungs are *fully expanded*, they are inflated from natural respiration, and have no fears of the objection of artificial inflation. But if lungs are partially inflated, we must look well to the condition of the child for other proof of live birth; and if there are no marks of violence, and no suspicious important circumstances attending the case, we may with the assistance

of the other lights of the case—as the color and marbled state of the lungs, the development of the child and amplitude of the mother, the place in which the birth occurred, the consideration of the social relation of the mother after child shall have been born, and the absence of any congenital defect in the child—these will aid us in determining that artificial respiration was not performed, and the cause of the inflation. It, too, is improbable that any mother, good or bad, would think of restoring her child by artificial inflation, in her ignorance of such process, even if she desired most earnestly to preserve the life of the infant.

The next objection is—(*b*) That decomposition of lung-structure which, producing a gas, may cause these organs to float on water, is a well known fact, and it is equally true that this is an objection to the hydrostatic test. As a natural consequence, when putrefaction is advanced in the lungs we cannot depend upon this test. But if decay is merely upon the surface of the lung, especially if it is limited to a few points upon the superfices, and does not extend to the substance of these organs, and if, added to this, the substance of the lung is yet of natural consistence, not softened, we may safely conclude that putrefaction will not interfere with the value of the hydrostatic test in the case. We may still further be assured this view is correct, if, on firm pressure between cloths and thin boards, or between the fingers and cloths, the gas can be so far removed, without destroying the substance of the lung, as to cause the portion to sink in water. For it has been found, by actual experiment, that the gas of putrefaction can be so far removed from the lung by compression as to cause it to sink in water, while the air of respiration can not be forced from the lung so as to make it sink by any pressure short of that which would completly break down its structure, and often not then. The reason for this is obvious. The gas of decomposition is outside of the air-cells, in the cellular structure of the lung, while the air of respiration is within the air-vesicles, and can not be forced out except through the bronchioli, which result is not probable, as the latter, too, are compressed in the experiment; or by rupture of the air-cells, which must be a rare result in an undecomposed lung. While the gas of decomposition being carried around, the air-cells can be readily compressed out, as the cells of the cellular tissue more or less communicate with each other, and these with the external air.

Again, the objection of decomposition is considerably removed by the fact that decay takes place with great tardiness

in the lungs—later than in any other organ, excepting the heart, uterus and bones. To illustrate this, I may cite one of my own experiments:

Nov. 12, 1861.—A small pig was placed in a manure pile, that decay might proceed as rapidly as possible. On the 15th, three days, it was half rotten. The lungs were not softened; the heart on surface showed some putrescent vessels. The lungs and heart together floated; on separating them, lungs sank (the animal never had breathed) and heart floated. On compressing the heart, it too sank.

This case not only illustrates how slowly decay progresses, but affords proof of the value of the hydrostatic test.

With these limitations and facts in view, we may consider the hydrostatic test safe, so far as limited decomposition is concerned; if decay be general through the lungs, the test is useless.

The next objection urged is—(*c.*) That life can long exist without respiration may well be doubted; that the new-born infant's heart may pulsate for a few moments, and there be no apparent respiration, is admitted as true. But what, we ask, have such cases to do with the true value of the hydrostatic test, since the pulsation of the heart must be shown by the mother or by another to have taken place? It follows, therefore, that if some party does not prove it, the evidence of life can not be shown in the case, and, consequently, life *being proven*, the hydrostatic test is not needed in such a case. The question then turns, not on the point, *Did* the child *breathe!* but, *Why did it not breathe!* To determine this, the state of the lungs and other organs are generally competent. This head will be again considered under ataletasis.

The next point is—(*d.*) It is asserted by certain writers that emphysema of lungs may be an objection to this test, but more modern authority believe that it can be, since those who consider it a source of error probably mistake the gas of putrefaction for the air of emphysema; and moreover it is difficult to imagine how we can have established the pathological condition of emphysema, without the lungs having been previously inflated with air. We may, then, with others, safely dismiss this objection.

Our next point is—(*e.*) That hepatization or tuberculation of lung is a well continued negative objection to this test may be doubted, because either of these conditions can be detected and distinguished from those evidences denoting breathing. Hepatization is rarely general; and if partial, some portion of

the lung will float if breathing has been performed. If it is general, the child could not have breathed and the *hydrostatic test is relieved*, as the child could live but for a moment with such lungs. Tuberculation of lung is a structural disease that in its very nature will prevent the new-born infant living but for a few moments, and may be easily distinguished after death on examination. And if it be not in proof, no man in his right mind would presume such child could have supported independent life. We may narrate a case in point: We were recently called to a case of miscarriage at the seventh month, a natural labor. The surface of the child's feet and hands were discolored, and the cuticle upon the sides of its feet and on the back of several of its fingers separted on being handled. The abdomen was tumid and the scrotum distended with gas. The face and surface generally were dusky in color; but further than this we observed no marks of putrefaction. Notwithstanding these evidences of decay, this child was seen to breathe, but was not heard to cry. It breathed several times (jerking respirations) without aid, and eight or nine times by blowing in its face. When the cord ceased to pulsate it was tied and divided, and the child enveloded in cotton, excepting its face, after which it breathed several times by blowing in its face, when death took place.

Post-Mortem.—Twelve hours after death. Lungs unexpanded, of a dark liver color, containing points of hard white tissue. On placing heart and lungs on water together, and separate, and also a number of small portions, all sank.

Microscopic examination of these hardened points showed oil globules, colestrine, granuels, epithelial cells, the surface of which were granulated, and tubercle corouscles, which showed round nuclei with and without the aid of acetic acid.

Here then is a case in which a child was born and respiratory acts were observed, and yet the lungs showed no evidence of respiration, for the simple reason that they were so diseased as to obstruct the entrance of air into the air cells. It follows, therefore, that in strictness there was no respiration, and consequently the hydrostatic test can not settle the question of life. It is clear, too, that this infant had only negative, dependent life, and under the law would be ruled out as a case beyond its province. This subject will be indirectly referred to again under the head of atelectasis.

The next objection is—(*f.*) Pneumonia has also been urged as a negative objection to this test. It is well known, however, that this disease is extremely rare in new-born infants,

and that when present in the very few exceptional cases, it can plainly be detected by its limitation and by the fact that portions of the lung are inflated. For my own part I have always believed that the use of an organ, as well as its disuse, may lead to corresponding diseases, and hence feel that the introduction of air into the lungs of the new-born infant may be a cause of disease, and consequently that the comparative state of rest of the intra-uterine lung is highly unfavorable to inflammatory disease of this structure before birth. We feel, therefore, that pneumonia is intimately associated with the presence of external air, and consequently doubt the accession of this disease without respiration having been established. We may, too, doubt its instantaneous production after birth, so speedily as be a source to of error in investigating cases of infanticide.

The next objection is—(*g.*) Atelectasis being simply a state of unexpanded lung, with no positive lung disease, we naturally conclude that the general system or some other organ of the infant must be at fault. It may be that the general powers of the infant's system are so weakened that the nervous influence is not sent down from the nervous centres with sufficient force to expand the chest, and therefore the lungs are not inflated; or it may result from a partial obstruction in the air passages. If this state result from partial obstruction, it may possibly be removed by the acts of inspiration and expiration, but if it be from lack of nervous power, or other than lung organic vital defect, the difficulty cannot be removed, and soon, a few hours at most, the child must die. It would seem, then, in these cases, that if on examining the air passages we find no obstructions, the possibility of such children assuming an independent state of existence is improbable. And if such can not assume independent life, we can not perceive how infanticide can be committed upon such infants, they being inevitably destined to perish for lack of respiration. It would be a misdemeanor to take the life of such cases, but not murder. But if the obstruction (as mucus) in the air passages were of such nature as to be removed by the effort of respiration, then infanticide could be inflicted on such infants, and it would be seen that the criminal, if guilty, should be held strictly accountable in such cases for the death of the particular child.

It is a fact, I believe, that children with atelectasis never recover, and can it be that our law will condemn the culprit for the murder of that which has no independent existence,

and is destined never to possess such independence? But we do not know that a child laboring under this disease ever recovered, and until we can prove that they may recover, we feel that when the presence of this disease is shown we are bound to conclude the child could not have lived.

What are the obstructive causes which may prevent the expansion of the lungs and simulate atelectasis? 1st, strangulation by various means; 2d, hanging; 3d, suffocation; 4th, drowning.

It must be determined whether these (except hanging) are accidental or homicidal, by a careful examination of each and the attendant circumstances. Strangulation offers the greatest prospect of success, and suffocation next, for obvious reasons. The other means may be the homicidal measure.

The subject of atelectasis has lately been incidentally developed in the trial of Brock *vs.* Kellock, before Vice Chancellor Stewart (see January number of *London Lancet*, 1862), in the course of which trial Drs. Lee and Ramsbotham gave it as their opinion, that proof of respiration was, and Drs. Taylor and Tyler Smith that it was *not*, necessary to establish live birth; the last two gentlemen believing that circulation can, for a short time, proceed without respiration. Dr. Anstie, in commenting upon these opinions before one of the London medical societies, takes the still higher ground that *consciousness* in the infant commences with the process of respiration, and that until the infant has become *conscious* it can not be deemed to possess an independent existence; and that therefore consciousnes should be one of the great evidences of independent life in the new-born child. That consciousness follows respiratian is a fact which most physician's have observed. The child must breathe, then we hear the cry.

This doctrine we must believe is correct, but we doubt its practical application in these cases; for who, but the mother, in many such cases could say whether or not the child had cried? Yet if it be kept in view as a leading principle, it will certainly, so far as we can perceive, lead to truth.

The presence or absence of consciousness should be one of the tests in these cases, and the fact should be discovered if the *unconsciousness* could have been produced from other than lung disease, which may enable the enquirer to determine the probable viability of the child irrelative to respiration.

The doctrine of proof of respiration being required to substantiate live birth is, it seems to us, far more safe in law than the ordinary doctrine of live birth, and it merits the closest

scrutiny of the medico-legal professions. The question must be closely considered in all its bearings. A large class of cases must prove beyond a reasonable doubt that so soon as respiration has been established, consciousness is a necessary sequence, before this doctrine can be adopted with safety. It, however, will not be correct to maintain because a new-born child is unconscious that it did not breathe, for other causes may render it unconscious. If such are not detectable on inspection, and if no proof can be afforded of respiration in the case, we are left without data, and should give the culprit the benefit of the uncertainty.

The condition of atelectasis may be readily detected on inspection, by the dark color and uninflamed state of the lungs, by their sinking in water, and by being readily inflated after removal from the chest, when they will readily float on water, thereby showing no organic changes in the lung structure.

Under this head of our subject we conclude.

1st. If during the performance of the hydrostatic test the lungs float high, especially if they are large, marbled and of a bright pink color, and if decomposition is not, or but to a limited extent is, present on the surface of the lung, we may consider this test reliable of breathing; and if of breathing, it is one thousand chances to one in favor of live berth.

2d. If decomposition is present in the substance of the lung, or over the entire surface, the hydrostetatic test is useless.

3d. If the lungs are partially inflated and there is no lung decay, the hydrostatic test may become useful in connection with the other phenomena of the case.

4th. That emphysema, pneumonia and lung tuberculosis cannot be serious objections to the validity of *this test.*

It seems, then, that the hydrostatic test stands at the head of all of our means for detecting breathing in the new-born child; and that it had not lost its ancient value, but has rather increased in importance, by the efforts of able persons, whose object has been to qualify and show the true value of the objections to the test. I need hardly say that we cannot generally depend on this test alone; but there are cases so palpable from this test alone, as to force the conviction of breathing. However, it is our duty as physicians to avail ourselves of every phenomenon in the case, considering this test as the most important, but remembering not to neglect any of the evidences.

It will be noticed that no use was made of the *static tests* in this case. This apparent neglect was not an oversight, but

was omitted because we think but little dependence can be placed on either the positive or relative test. 1st. Because the weight of lungs before and after breathing differ largely in new-born infants; and 2d. Because the weight of the lungs to the body, before and after respiration is established, vary so intimately as to dictate the non-prediction of any facts from this source.

By reference to the testimony in this case, it will be seen that the physicians differed as to the value of the hydrostatic test. This may have been caused by some of these gentlemen understanding this test as simply referring to the fact of the lung floating on water; when in reality the test includes all those changes which are produced in the chest and lungs by respiration; as the enlargement of the chest, in depth and latterly, and of the lungs; the change in color and consistency of the latter, and the exudation of frothy mucus tinged with blood from incision of lung structure. The changes effected in the heart by respiration partially belong to this test; but the *static tests*, as they essentially differ in their nature from the *hydrostatic tests*, do not.

We now ask attention to the next division:

II. What is the proper duty of the physician in investigating these or other medico-legal cases? How far should he exert himself to obtain the truth relating to a particular case?

It must be evident that every sane man is interested in the maintenance of the public welfare, and therefore in furthering the ends of the law. No man can tell when he may need the protection of the law; when he least expects it he may be obliged to call for its magisterial aid. Society is but a unity for the development of good and happiness, and in order that it shall progress in the true sense of the term, each member must aid in the establishment of truth. The physician as a member of society has special duties to perform, as well as those of the citizen, and under no circumstances should he avoid these, provided the act will not conflict with his duties elsewhere, and he is competent, and he believes it will confer a benefit upon the community of which he is a member. No one will deny that, for a time, the physician may lay off his professional robes to act as the citizen, and again resume them; and I do not think any candid man will deny that a physician making a post-mortem examination, for and in behalf of the State, may for a time leave his profession, to inquire into extra-medical matter pertaining to a case. Why? Because he is both citizen and physician. Community expect of him,

as his profession has given him additional mental power and scope, that he will use the same for their protection against social evils. And is it possible that we have among us a single physician who would not ferret out crime in any of its hydra forms, with all the ability he may possess? Is there one of us, feeling our true position and our duty to act, that would shrink from aiding the law, from a fear that his motives might be questioned? Where, if not from the observing physician, would many legal cases derive their support in open court? The physician may be cognizant of *extra*-professional facts as well as professional, and shall he not observe and report such? And if he may observe such facts without the pale of his calling, is it not his duty also to follow up the case and make suspicions reality, if they are "worthy the name of reality?" Nay, more, is there a physician, seeing suspicious circumstances in connection with a case, that would *dare* to make no effort to discover if they were not reality? How could such a man balance his account with society, if, turning on his heel, he left such a case to be developed as it might be? There is no half-way: the physician either owes a full duty to society, to eradicate crime to the utmost of his ability, or he owes no duty at all. He is either a member of the social sphere, or he is not.

In the performance of these duties, if he should be obliged to resort to cunning means to obtain his information, is he not the better qualified for his duty? But, to particularize, if called upon as a physician to examine a case of alleged infanticide, after having made a post-mortem, would he not properly endeavor to obtain further light in the case, by obtaining a physical examination of the supposed mother, that he might connect the one inquiry with the other; and if, after proceeding thus far, the thoughts of obtaining a confession should occur, or be suggested, should he not endeavor to obtain the same, not by threats or promises, but by persuasion? And when he saw by the manner and actions of the suspected party there was good prospect of obtaining such confession, he should continue his efforts, should he not be applauded as a faithful witness and an honest citizen? Such then are the circumstances of this case, and these remarks show all that we have to say under this head.

The spirit of these conclusions may be found in Dean and Taylor's *Medical Jurisprudence.* And a still more rigid course is pursued in some of the German courts (see *North American Review*, late No.) in the search of criminality.

Our next division is—

III. A consideration of the legal doctrine "live birth."

It will be perceived that none of the medical witnesses in this case testified that the hydrostatic test was an evidence of live birth in the legal sense.

Strange as it may appear, most legal authorities hold that the child must be entirely without the mother's parts to constitute birth, and this is qualified by some that the child must be capable of supporting an independent existence. One authority, we remember, holds that the child will be considered "born," although the cord may not have been divided after delivery. Physicians can not see the propriety of this definition. Doubtless it had its origin in a desire to be on the merciful side, ere punishment was inflicted, in a truly laudable attempt to give the prisoner the benefit of "*a doubt.*" But this principle of justice, however meritorious it may be, has, we fear, remotely favored the production of infanticide, for it is a notorious fact that but *very* few criminals are convicted of this offense.

It is, too, a dangerous position, because a child may be born *in part*, and murdered, and no *adequate* law can reach the case. Even were it shown by the admission of the mother, or other party present, that at such a stage of the labor the child was murdered, it would constitute no *capital* offense against the law.

But, it is maintained, the law must set a fixed line where labor ceases and external infant life begins; and this her edicts say is when the child shall have been expelled from the mother entirely. But this fixation is objectionable, knowing that we can determine the nature of the child's vitality, by showing the stage of the mother's labor; but hoping rather to demonstrate the stage of labor by showing the *vital character* of the child.

It is proved beyond controversion, that the child may, in some few cases, breathe before it is born in the legal sense, but these cases are exceptional. In such we have evidently an independent life commenced, yet not fully protected by the law. Take a case: a child's head is born, and a blow on that part feloniously killed it; the child is murdered, yet the law can not punish for murder, because it is not born in law.

The question soon turns practically to the point, Was *the* particular child criminally destroyed, or did it die naturally after such partial birth? How can we determine this question? We answer, if with the respiratory signs present we

have those of asphyxia, and there are no marks of violence on the child, and the history of the case evinces a tedious labor, and its circumstances show no homicidal intention, and no fears need be entertained of conviction in such a case. It is not to such cases of infanticide that we refer, but to those not fully born, in which the child evidently breathed, and was plainly murdered, and yet the legal definition of live birth will effectually prevent adequate punishment. But there is yet another class of these cases that dictate the removal of this definition, viz: those negative examples where the child has been entirely born, but respiration so imperfectly established as not to be perceptible during infant life, or proven after death, and where the circulation proceeds at a feeble rate. According to *this* definition such infants live, when in reality they have no *independent life whatever.* It is true that such cases generally are in proof by other parties than the mother, and that they mostly die; but examples may occur unwitnessed, and the physician be called to prove that this child never lived, which he can not do, for the legal definition of live birth stares him in the face; for he is aware that although he can discover no respiratory signs of life, the child may yet have been "born alive" in the legal sense. These defects would seem to dictate a change in the law on this point, and what should this be? With great deference to what may be the opinions of others on this point, we suggest we have already alluded to it under the head of atelectasis, there holding that no infant can be deemed responsible, or to possess independent life, until *consciousness* has been established; and as we know this is not shown until respiration has begun, therefore the presence or absence of respiration in these cases should be the great test of live birth.

This certainly is safe doctrine for the mother in this class of cases, because we can conceive of no cause which will arrest birth and destroy the child, which would not show in or about the mother or child after the birth. According to this view, if the child does not breathe, it cannot require the protection of the law so far as infanticide is concerned; the question then turns to the crime of fœticide, which we are not considering. But to illustrate: If a child present with a wound upon its head, and the attendant circumstances show that in all probability the *mortal wound* could not have resulted from accident, and there are evidences of respiration having been established, and no congenital defects of the child which could produce *unconsciousness*, it is evident that consciousness following respi-

ration was established, as this state is the known effect of respiration; and the criminal should be held responsible in such a case after it had been sifted in all its bearings.

In the fixation of this doctrine we have advanced in principle, yet it still remains to be shown in each case of alleged infanticide that the perils of labor may not have destroyed the child after consciousness was established, or that the want of consciousness may not have been produced from disease of the mother or child, or from accident. But these objectionable cases are rare, and if their rarity be insisted upon by the defense, and the *non-existence* of such be not proven by the prosecution, the exception does not prove the incorrectness of the principle, but only that it was not useful in the particular case, or that the prosecution did not properly develop the case.

The law claims that any motion (and crying includes motion) of the child is an evidence of life; but if the child should move its head ere the body was born, and it was observed, it would be no evidence of independent life, although obviously i might have been born alive and was murdered. The law, however, does not hold that crying is any more than an infantile motion, showing life, and does not point to its denoting the establishment of consciousness, which act ninety-nine times in a hundred brings the conviction to us in the new-born infant of independent infantile life.

From these considerations we believe that consciousness should be the great test of the independent life of the child: prove this and the infant may be murdered and the criminal be responsible *for murder;* and if the principle is not established, we cannot see how murder of an independent being can be inflicted. From this it follows that the removal of the old doctrine of "live birth," and the substitution of that of "independent vitality," and the keeping in view that *without respiration* we cannot have *independent* infantile life, would further the ends of justice, and bo more safe, because more effectual, than the present law.

INFLUENCE OF CLIMATE ON PHTHISIS.

We find the following statement in the *Medical Times and Gazette*, which did it not betray a great want of knowledge on a subject which deeply interests the welfare of thousands, would be really amusing:

"The Empress of Austria, who, as your readers are aware, went some time ago to Corfu, under the care of Professor Skoda, for tuberculosis of the lungs, is reported considerably improved. The heat of Corfu is at present very great, amounting to 95° F. at mid-day, to 77° in the evening, and only a little less in the morning. Sudden changes of temperature, however, never take place, and even after sunset walking in the open air is not injurious to the patient. The climate of Corfu agrees remarkably well with the Empress, and the infiltration of the lungs, which had made alarming stride of late, has become stationary. The cough has quite ceased, and the general health of the illustrious patient is much improved. It has not yet been determined where the Empress will pass the winter, but it is settled that she leaves Corfu on its approach, as the winter there is not suitable for delicate patients suffering from diseases of the chest."

If we are to consider the climate of Corfu favorable for phthisical patients, where "walking in the open air after sunset is not injurious to the patient," we hardly know how high we ought to rate the climate of California, where not only can our patients walk in the open air after sunset without injury, but where they can sleep in the open air during six months in the year, with manifest advantage. During the past summer, we have had phthisical patients camping out in the mountains, and sleeping under the trees, in whom not only has the infiltration of the lungs become stationary, but in whom it has entirely disappeared.

Whilst on the subject of phthisis, we will endeavor to give as literal a translation as possible of a communication by Mr. Piorry, presented to the Academy of Medicine in Paris, furnishing, as it does, a sufficient reason why phthisis should still prove itself incurable to physicians of the older school.

"M. Piorry read a communication on the treatment of pulmonary phthisis. The author enumerated the long list of remedies that had been brought forward at different times

against tuberculosis, and endeavored to prove that the use of the greater part of these remedies and therapeutical methods was founded either on a blind empericism, or on hypothetical theories. He observed that all the means of treatment had been finally condemned by clinical experience, and he believed that the only rational treatment of pulmonary phthisis, is that which reposes on the precise indications furnished by the exact or plessimetric diagnosis of monorganisms, and which, prescribing all the pretended specifics, combats each lesion, local or general, by the treatment it requires. M. Piorry insisted more particularly on the necessity of favoring expectoration, and thus preventing the *anoxemia* which migh result from the retention of muo-purulent secretions in the acrea-tree, on combatting the *splenemogolia* by sulphate of quinine, and the *chloro-anemia* by ferruginous medicines."

Some twenty years ago, we listened with both pleasure and profit to M. Piorry's lectures on Diagnosis, and we only regret that, at least as regards pulmonary consumption, the only progress he appears to have made since that time, has been in the invention of a barbarous and unintelligible nomenclature. As well might we treat gout by applying a cooling lotion to the great toe, as to base our treatment of phthisis on expectorants and other drugs. Behind the pulmonary disease exists the tuberculosis of the system, which must itself be remedied, if ever we hope to treat phthisis successfully.

We have already pointed out, in former numbers of this Journal, how this is to be effected—it certainly can never be accomplished by drugs.—*Pacific Med. & Surg. Journal.*

REMOVING THE CLITORIS IN CASES OF MASTURBATION,

ACCOMPANIED WITH THREATENING INSANITY.

BY E. S. COOPER, A. M., M. D.,
Professor of Anatomy and Surgery in the Medical Department of the University of the Pacific.

The proper management of inveterate cases of masturbation, in both sexes, is a subject of great importance to medical men, in view of the fact of the practice causing a degeneration of intellect, and even insanity itself. These case are far more numerous, in every country, than they are supposed to be, except by medical men. Being subjects of great delicacy, they

remain, as they should be, secrets between the family and medical adviser. Though these are matters of a very private nature, they should always be freely discussed by medical men the more so, since very little has, thus far, been done to ameliorate the condition of the more unfortunate victims of this practice, who have progressed towards approaching insanity. But to the inexpressible anguish and chagrin of their parents and the most profound pity of all who know anything of them, they often degenerate, physically, morally and intellectually, until they pass out of the reach of medical aid, and become hopelessly lost. At no time does the practitioner feel more keenly the inability of his art to save, however often he may have to deplore his inefficiency in arresting the progress of some fatal malady. Death is infinitely preferable to insanity from this cause.

What can be more deplorable than to see a little girl, twelve or fourteen years old, the daughter of intelligent, high-toned parents, and naturally bright herself, but so far advanced in the practice of masturbation and mental degeneracy as to be entirely unable to govern herself, even after the habit is observed, and the fearful consequences of continuance fully explained to her? Or what can call forth, to a greater extent, our heartfelt commiseration, than to see a youth, with fine mental endowments by nature, just verging into manhood, finding his mental and moral energies failing, under the influence of a practice, the noxiousness of which he had no idea, at the time of commencing it, but who, at last, finds a mental wreck almost inevitable, and who implores the surgeon to save him by any means, even that of castration. Though surgeons would hardly be justified in performing this operation, still in view of the awful results so often growing out of the practice of masturbation, when it has produced incipient insanity, and deprived the patient of the moral courage and firmness necessary to control the habit, we would be justified in resorting to almost any operation.

In the female, it would appear, judging from the result of two cases, as though we have found a remedy by surgical interference, and of such mildness and simplicity as to commend it to an early trial in all cases where the habit of masturbation threatens injury of the intellect. It consists in removing the entire clitoris, including the corpus cavernosum clitoridis, and the major portion of the erectores clitoridis. We will briefly detail the cases:

Case 1st.—Miss ———, æt. 13 years and 6 months, once a

beautiful bright little girl, whom I knew in the Atlantic States, eight years previously, was brought to me in July, 1860. At first sight of her, it was easy to recognize the bland, childish smile, which was one of her striking characteristics at the time I had seen her last. But, in conversation, I soon found that she had lost her former vivacity and brightness of intellect, but when we began to speak of her condition—which was begun by her mother, whose mortification at having to come upon such an errand, induced her to speak more from feeling than prudence—the little girl's face changed to a sort of idiotic ferocity, which made it but too apparent that insanity was fast absorbing her faculties. Although so young, she had already attempted to commit suicide, by trying to cut her throat with a razor. There appeared little chance of doing anything for her. She took, however, lupulin in 5-grain doses, three times a day, for some time, and her mother was admonished, in the strongest manner, to change her harsh tone towards her, and to endeavor to win her confidence and secure obedience, by kindness. This course was continued for two months, but with no effect. We could neither improve the condition of the nervous system, nor induce her to leave off her practice. The mother had her watched, day and night, and thought she might, in that way, prevent it altogether. But the child had a mode of crossing her thighs, and rubbing with them at the same time, so as to produce the desired result. This she would sometimes do with so little movement, especially while in bed, as to deceive those who were watching her, even after their attention was directed to the fact; and, what was singular in regard to this, sometimes she would confess, candidly, what she had been doing, and as often deny, most persistently, the practice altogether. The mother, being now almost frantic, had abandoned all hope of saving her from a permanent residence in the Lunatic Asylum, and implored me to do everything, try every experiment that offered the least probability of cure. The removal of the clitoris was then proposed, and its trial most willingly consented to by the mother.

Operation.—The operation consists in grasping the elitoris, back of the glans, with a pair of forceps, drawing it forwards, so as to place the erectores clitoridis and corpus spongiosum upon the stretch, when the whole mass was cut away, by the scalpel, with small portions of the nymphæ. Very little hemorrhage occurred, and the patient was quite comfortable the next day, though very melancholy, and recovered, without an untoward symptom.

The operation was successful in breaking up the practice, and the patient has very much improved in the mental faculties, all save the memory, which appears to be almost entirely destroyed.

Case 2.—*Miss*——, æt. 10 years, was discovered to be in the habit of committing Masturbation, about six months prior to my being consulted, June, 1861. She was thought, by her mother, to be gradually becoming stupid, for some months previously, and her nervous system had lost, almost entirely, its wonted tone.

In July following, with the assistance of Prof. L. C. Lane, I removed the cliteris, as before. The patient suffered no particular inconvenience from the operation; remained in bed one day, and walked about, after that, as if nothing had occurred.

The result has been entirely satisfactory. The habit was broken, and the little girl began rapidly to regain her usual sprightliness, and is now from home at a boarding-school, whence she often sends letters to her friends. The letters show her to be a girl of extraordinary intellect, though, prior to the operation she had occasionally a vacant idiotic stare, which promised anything but her present bright state of mind. Her parents informed me that she had taught a little sister of hers, only two years old, the same habit, and that, at one time she thrust one of her fingers up the vagina of the little child. On examining the babe, we found the hyman not only ruptured, but the clitoris and vagina four or six times as much developed as they should be.

Remarks.—After these results, I think a surgeon should not only remove the clitoris, in all similar cases, but, if this should prove insufficient to effect a cure, he should remove the entire nymphæ, also, as they are very vascular, and possess erectile tissue of great sensibility, and are said to be parts often titillated in Masturbation.

Query.—What effect will these operations have upon the person in a married state? These parts are supposed, by many physiologists, to have much influence over sensual gratification. Some regard them, in fact, as the seat of venereal pleasure.

Practically, this matter does not come up in those desperate cases in which a destruction of the mental faculties is rapidly going on, and there is no other known way of curing the patient. But, in a physiological point of view, it is a subject of great interest.—*San Fransisco Med. Press.*

EDITORIAL AND MISCELLANEOUS.

The Sanitary Commission.—Etertaining at the outset of the present war a "generous confidence" in the government of the country, and knowing something of the gigantic means at its diposal, and the large number of well paid officials whose business it was to render those means efficient, we were among those who doubted the great necessity of the so-called Sanitary Commission. We regretted that its head and front was not, as common sense would have suggested, a practical medical man; and a variety of circumstances, not necessary now to be repeated, conspired to produce the conviction that the organization would ultimate in a failure.

But the immense resources of government were largely depleted by private peculation, as well as by the unexpected magnitude of the war.

Officials were found sometimes overworked, oftener slothful and negligent, and perhaps oftener still, either incompetent or altogether knavish.

The filling up of requisitions from regimental or brigade surgeons by the officials having the matter in charge was, and is, an almost unheard of thing. Whole regiments and even brigades have been kept destitute of the most indispensable medicines. Government hospital transports utterly unprovided with even the cheapest and most abundant of supplies for the sick and wounded.

And this, be it observed, without a shadow of negligencce or want of forethought on the part of the medical men detailed to the charge of them. The poor excuse of difficulty of obtaining these supplies cannot be made by the *head* officials, for the markets are positively glutted with them, and the holders are abundantly anxious to secure even the certificates of indebtedness of "our common Uncle."

The slightest skirmish has about invariably found the official hospital supplies and appliances defficient to a deplorable extent, whilst Fort Donelson and Shiloh, have shown an infini tesimal attenuation of positive necessaries, which would shame the pitiful attempts of the Homœpathists from Hanhemann downward to imitate.

We repeat there is not a shadow of an excuse for the failure of the officials to answer immediately and fully the requisitions made upon them for supplies by the brigade, regimental and hospital surgeons.

But there seems no help for it according to the present order of things, unless, perchance, these central officials be transplanted to some better paying or more honorable positions, and new and active, or at least honest men put in their places. (It is suggested by a friend at our elbow that a dozen foreign missions be created for them, if none are now vacant—and this perhaps would be the cheapest way in the long run.)

Public opinion would not permit the soldier to suffer, although he squandered his hardly earned wages for the sutler's trash, and although the powers that be were incompetent, neglectful or worse.

The Sanitary Commission, a self-constituted committee, was taken up by the profession and the public, and it is but simple justice to say that it has discharged the business assumed and devolved upon it in a way and to an extent which challenges the admiration of the country, as it has secured the unbounded gratitude of the suffering soldiery.

The amount of supplies, positive necessaries, conveniences, little luxuries and comforts, and attention which they have been instrumental in conveying gratuitously to the grand army is truly wonderful, and puts to shame the sleepy or scoundrelly army officials.

As soon as possible it is intended to give some of the details of this immense work and outlay to our readers.

We are proud to chronicle the large number of professional gentlemen who have contributed their personal services gra-

tuitously, and often at considerable cost, aside from time and interference with their current business, to the wounded and sick on the field and in the hospitals. In this respect, also, the Sanitary Commission are entitled to thanks. They have done much to secure the services of competent men, and at the same time to prevent the disabled soldiers from falling into the hands of charlatans and unfeeling experimenters. Our brigade and regimental Surgeons have been overworked and many of them have fallen victims to exposure and fatigue. They have needed, and will continue to require more help from Surgeons in civil practice. We trust that none who can go will be dissuaded by having once satisfied his curiosity, or experienced the hardships and privations of a military visitation. Meanwhile, honor to the Sanitary Commission.

DE WITT COUNTY MEDICAL SOCIETY.

The society met in annual session at the office of Dr. W. W. Adams.

The President, Dr. Z. H. Madden in the chair. The minutes of the previous meeting were read and approved.

On motion of Dr. Adams, Dr. Brown of Macon county, was invited to participate in the proceedings of this meeting. On motion the election of officers was postponed until the afternoon session. Essays were called for. Dr. T. K. Edmiston was excused from reading on account of sore eyes; but made a verbal report of a very interesting case of abscess of the liver. He also gave notice that he would read a paper on the formation and treatment of abscesses at the next meeting of the society. Dr. Shurtleff read an essay on diptheria in which he contended that it was a constitutional disease. This gave rise to a very interesting discussion; some of the members contended that it was only local. On motion, the society adjourned to meet at 2 o'clock, P. M.

AFTERNOON SESSION.

Election of officers being in order the following were duly elected:

John Wright, M. D.—*President.*
Dr. J. R. Richards—*Vice-President.*
Dr. R. T. Richards—*Treasurer.*
Dr. B. K. Shurtleff—*Secretary.*

B. S. Lewis, M. D., T. W. Davis, M. D., and W. W. Adams, M. D.—*Censors.*

Dr. Z. H. Madden, the retiring President, then delivered an excellent valedictory address which was listened to with marked attention. On motion, the address was ordered to be published in the *Central Transcript.* Dr. Brown verbally reported a very peculiar case in a child: The disease first making its appearance by swelling of the scrotum followed with fever, general depression and dark spots from the size of a dime to that of a bottom of a large tea-cup, having the appearance of extravasated blood. The doctor also spoke of four or five similar cases treated by physicians of Decatur and almost invariably terminating fatally.

Scalds and burns, the subject for general debate, was then discussed by most of the members present. Drs. W. W. Adams and D. W. Edmiston were appointed essayists for the next meeting. Mercurials in the treatment of disease was chosen as the subject for discussion at the next meeting of the society. Dr. R. T. Richards offered the following resolution which was unanimously adopted:

Resolved, that the thanks of this society are due and hereby tendered to Dr. Madden and lady for the excellent dinner prepared for the members of the society.

On motion, it was ordered that the proceedings of this meeting be published in the *Central Transcript* and Chicago MEDICAL JOURNAL.

On motion, the society adjourned to meet in quarterly session at Waynesville, on the first Tuesday in July next.

DR. B. K. SHURTLEFF, *Secretary.*

☞ Subscribers will please direct business or money letters to Dr. Ingals, Box 14, Chicago, Ills.